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THE

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AND

HOME FARMER.

A CHRONICLE OF COUNTRY PURSUITS AND COUNTRY LIFE, INCLUDING BEE-KEEPING.

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TO OUR READERS.

At the close of another Half-yearly Volume our first duty and pleasure is to record, gratefully, the happy circumstance that all our esteemed coadjutors, the members of our staff, are still spared to impart, as they so well can, sound lessons in Gardening in its various aspects.

Some of them have their "locks silvered by past years," and are happy in adding to their ripeness in experience an almost blithsome lucidity in expression, which makes their writings, as a correspondent expresses, "ever fresh and free."

Others add to the comparative buoyancy of youth, and its sanguine utterance, sober thought and logical acumen that render their productions acceptable and suggestive.

Still more—and we are pleased to say more than ever—of our readers, both amateurs and gardeners, have become instructors by the contribution of articles at once creditable to themselves, useful to others, and generally appreciated.

In the Volume to which the accompanying index refers will be found the first Essays for which silver medals have been granted, and we desire to tender to the writers of them our best congratulations. While recognising the cultural ability displayed by men who win prizes at exhibitions, we think that not less honour is due for skill in literary productions. We have other Essays in hand, and with the object of securing the best information on specified subjects, imparted in commendable literary guise, it is possible that the scope of some competitions will be enlarged. These medals will afford tangible evidence of horticultural acquirements and intelligence by their possessors.

Looking back over the past as we do thankfully, we look forward hopefully, confidently, that the high claims of Horticulture to national respect will be more and more recognised—sure as we are that the ancient art will lead the way in the development of the soil's resources—the root of all prosperity, for the origin of wealth—food—is to be traced to the soil.

In this development the JOURNAL OF HORTICULTURE will have no mean share, for it has as willing supporters—helpers and workers in the worthy effort—the ablest and best exponents of gardening, the foremost cultivators of, and readiest writers on, flowers, fruit, and vegetables in the world.

To all—experts and probationers, amateurs and gardeners, writers and readers, we tender the hand of friendship—friends in a common and good cause—and wish to each and all, in no perfunctory manner, but in the fullest sense that the words convey

A HAPPY NEW YEAR.

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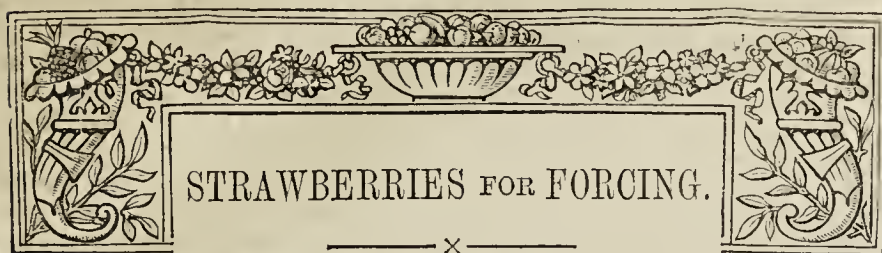
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A SUPPLY of strong early runners for layering in pots for forcing is out of the question from old plants, the best being furnished by young plants that are planted early after rooting in the preceding year, and these must not be heavily cropped if they are to furnish vigorous runners; in fact, they are better not cropped, yet it is desirable that the runners be only taken from plants that have shown fruit. The small early varieties are not worth growing in pots, for the first consideration in a forced Strawberry is appearance—colour combined with good size and form. Earliness, however, is a matter of vital importance in many cases, for to be anywhere but first is a great disparagement and loss of prestige to the grower who is provided with all necessary conveniences for his work.

As a first early forcing Strawberry Black Prince was at one time the most popular, but it is very liable to mildew, and the fruit when ripe is so small as to compare unfavourably with *La Grosse Sucrée* and *Vicomtesse Héricart de Thury*. These have superseded Black Prince, but neither has the colour indicative of perfect ripeness nor the mellow flavour which some persons consider essential in the earliest Strawberries. John Ruskin is likely to take a leading place as a first early forced Strawberry. It may be described as an improved Black Prince with larger fruit, well grown specimens averaging half an ounce each. *La Grosse Sucrée* is bigger and better than any Strawberry I have grown as a first early, averaging about three-quarters of an ounce per fruit, and its colour is bright and glossy. *Vicomtesse Héricart de Thury* produces more fruit, which is, as a rule, smaller. I have had “king” fruits weighing $1\frac{1}{4}$ oz., but good average early forced fruits of this variety are fine at half an ounce each. *Auguste Nicaise* has bold foliage, also large and handsome fruit, specimens weighing $2\frac{1}{4}$ ozs., and the flavour is decidedly rich and vinous. The colour is red, but more lively than *Noble* and *Duc de Malakoff*. The latter I at one time forced largely, and grew fruits over 2 ozs. in weight; but though good in flavour it was not a favourite on the dessert table. *Noble* is of the same race as *Duc de Malakoff*, having immense fruit. It is a great cropper, and useful for second early forcing, but must not be brought forward in too high a temperature. Similar remarks apply to *Auguste Nicaise*.

For home use and mellow rich flavour no Strawberry surpasses *Sir Harry* as a second early forcing variety. It is much confounded with *Keens' Seedling*, but the fruit is larger, more even in size, has a fine dark glossy colour and rich flavour. *President* (Bothwell Bank) possesses a fine constitution, has large handsome fruit, and is excellent as a second early or midseason forcing variety. Its colour, however, is too light to find favour in the markets, at least salesmen return less money for it than for darker and glossier fruit. Its agreeable flavour, large size, and handsome appearance are much esteemed at dessert. Fine specimens weigh over 2 ozs., and such are very liable to “spot”—a disease peculiar to the richest flavoured Strawberries. *Sir Joseph Paxton* is a fine midseason and late forcing Strawberry, and is then generally free from mildew, but when earlier forced the plants and fruit mildew to a serious extent. The fruit is large, heavy (specimens reach $2\frac{1}{2}$ ozs.), bright darkish red, with a rich glossy appearance, and a whitish somewhat mealy bloom. The quality is good and the fruit travels well. *Sir Charles Napier* forces

well for a middle crop, is handsome, large, bright red, rather scarlet, and crops freely. Perhaps there is no finer looking Strawberry than this; its flavour is sub-acid, yet refreshing to many palates.

For late forcing none surpasses *British Queen*. It is never grown to such perfection as under glass, the large, handsome, light coloured, exquisitely flavoured, thoroughly ripe fruit excelling all other Strawberries; but it is not largely grown for market, as the prices are not remunerative. *Dr. Hogg* is difficult to distinguish from *British Queen* when they are grown together under glass. It has a better constitution, the plants are not so liable to become “blind,” the fruit is large, handsome, though light coloured, deliciously sweet and delightfully piquant. Many fine baskets of *Sir Joseph Paxton* are named *Dr. Hogg* in fruiterers' windows. *Cockscomb* is large—in the “king” fruits enormous—and brighter in colour than *British Queen* and *Dr. Hogg*. It is evidently of the same race, and is richly flavoured. Those three are the best late forcing Strawberries to grow where nothing short of the highest quality with noble appearance will satisfy. *Waterloo* has the rich glossy crimson colour which is esteemed in the markets, and its large cockscomb-shaped fruits contrast effectively with *British Queen* for home desserts. Those are the varieties of Strawberries I have found most pleasant to the eyes and best satisfying to all tastes when forced.

The best plants to supply the largest fruit in the fullest crop are secured by layering the first runners either into small pots, and when they are rooted well detaching and shifting into the fruiting pots; or layering at once into the pots the plants are to be fruited in. Both plans are good; but I prefer the first on the score of economy in labour, especially in transport, as it is much easier to move 3-inch than 6-inch pots filled with soil. The 3-inch pots should be placed in a continuous line between every other two rows of plants, filling them to within half an inch of the rim with rather rough turfy loam rammed hard, half plunging the pots, and making a slight indentation in the centre of each for the plantlet. Secure it with a galvanised wire hairpin-like peg, and suppress all further runner growth. The pots must be kept properly watered to insure the speedy emission of roots by the runners, and as soon as the pots are filled with roots, and before they become much matted around the sides, detach the runners from the parents, and place the young plants in a shady place for a few days preparatory to shifting them into the fruiting pots. These should be 5-inch for early forcing, 6 inches for succession, while 7-inch may be employed for plants that may not be required for starting before February or March for affording large crops of the largest fruits in due season.

The fruiting pots must be clean, have a large crock in each, about three or four of lesser size above them, and over these some finer pieces so as to make about an inch in depth, or a little more. Turfy loam, rather strong, should form the staple of the compost, being only laid up sufficiently long to destroy the herbage. Tear or chop it up and add a quart each of steamed bonemeal and wood ashes to every bushel of loam, with about a pint of soot, thoroughly incorporating them. The compost should be moderately dry when used, for if too wet it will shrink after use and leave the sides of the pot; the rooting medium is not good, nor can water be well supplied. Place the rougher portions of the compost at the bottom and then pot firmly. The base of the crown should be about half an inch below the rim of the pot. Stand the pots on a hard base, impervious to or disliked by worms, in an open sunny situation, with sufficient space between the plants to allow for the full exposure of the foliage. Avoid positions exposed to winds, as these injure the leaves by rubbing against the pots. Supply water as required, and sprinkle the foliage daily for a few days after potting. With the roots working freely in the fresh soil copious supplies of water will be needed, and the

foliage should never be allowed to flag. Remove all runners as they appear, and keep clear of weeds, then may sturdy fruitful plants be expected capable of producing first-class Strawberries.—G. A.

HARDY FLOWER NOTES.

HEUCHERA SANGUINEA.

ONE of the finest of our rock or border plants at present is *Heuchera sanguinea*, which was illustrated in the Journal of 9th June (page 437). With the illustration appeared a most interesting notice of the plant by "Daisy," and if I must differ from that writer in his recommendation of annual division, it must be only in part, as the truth is we can lay down no hard and fast rule as regards division or non-division of hardy plants which can be applied to all gardens alike. In some gardens *H. sanguinea* may be divided and transplanted with excellent results, and in others this treatment may be unavailing. This I have seen amply tested, and I know full well that this mode is a most unsuitable one in a garden such as mine, where the *Heuchera* flowers freely if it receives an ample supply of water in early spring and summer. It is well, however, to know that with some success may be achieved by different treatment, and where the plant flowers even only moderately well it is well worth all the pains which may be bestowed upon it.

It is pleasant to know that at Kew progress seems to have been made with this plant, and I have no doubt if some enthusiast would only take up the improvement of the *Heuchera* that a rich reward—not perhaps in coin of the realm—would await him, and our gardens would be vastly enriched. Advocate as I am of raising hardy flowers from seed, I cannot but recognise that by this mode inferior forms are produced, and the exigencies of trade prevent most trade growers from eliminating the inferior plants. Here, however, is the field for the amateur, and I fancy he will not long leave it untilled. There is, by the way, what is said to be a superior variety of *H. sanguinea* offered by some of the trade under the name of *H. s. superba*. This should not remain at a high price for any length of time, as few plants are more easily increased.

DIVIDING GENTIANA ACAULIS.

Ere I quit the connection, a word or two on the subject of *Gentiana acaulis* occurs to me. I held for many years the orthodox faith that this delightful flower should be disturbed as seldom as possible, and when disturbed it should be removed in as large plants as possible. Fancy, then, my horror when on going into the garden of an enthusiastic lady florist I observed an array of single crowns of the *Gentianella*. On making inquiry why this was done, I learned that the friend from whom my friend had received the plant had said it would flower more freely if thus divided and planted. As was to be expected I promptly expressed dissent, but on entering the same garden the following spring I was astonished to see a delightful bloom upon the divided *Gentian*. Since that time I have become more heterodox in my treatment of flowers, and where I find *G. acaulis* is not amenable to the various soils recommended by ordinary practitioners, I do not scruple to suggest tearing the plants to pieces. Thus do our cherished prejudices become dissipated by facts—these "stubborn chieftains."

I have begun with poetry and descended into prosaic treatment; I have begun with the intention of reviewing some of Flora's battalions as they pass the saluting point, and have been tempted into the by-paths of cultivation. If thus I have gone astray perchance some other day some flowers unnoticed may receive their merited praise, for June has many blossoms in her hand.

POPPIES.

Poppies are brilliant and wave to the breath of the wind. *Papaver umbrosum* found a home here some six or seven years ago, and to all appearance means to remain. The Shirley Poppies arrived soon after their introduction by the Rev. W. Wilks, and spring up everywhere. *P. nudicaule*, the Iceland Poppy, runs riot through the garden, turning up in all sorts of places. It has invaded the borders and rockeries, and finds in mounds of Mossy Saxifrages and other Alpine plants a convenient seeding place. The convenience may be pleasant for the plant, but our patience is sometimes sorely tried when we have to extract tenderly from the bosom of some choice alpine the youthful scion of the sleep-producing race. Then the giant Oriental Poppy, *P. orientale*, known here as the "French" Poppy, has of late striven to emulate the others of its race, and to establish itself in unwelcome places. But, after all, the Poppies are little, if any, worse than many other flowers in this respect, for my garden seems to be a spot where

seedlings love to grow, and the fine Poppy flowers with their "crinkled" petals are very acceptable.

SUN ROSES.

These same "crinkled" petals remind me of the *Helianthemums* or Sun Roses, now brightening the rockeries in early morning and sunny forenoons. Fragile and beautiful are they; true children of Helios, and like their deity are too short a time with us. But as Herrick says, "Old time is still a flying," and we can but glance at those sheets of *Alyssum serpyllifolium* giving in the garden the brilliant gold which its congener *A. saxatile* lavished in the month of May; *Onosma taurica* (the Golden Drop), with its Almond-scented drooping golden ear-drop blossoms and hirsute foliage; *Lithospermum prostratum*, with its dark green foliage and deep blue flowers as if coloured by the ægis of Athena; noble *Pyrethrum*s, with their beautifully cut leaves and Aster-like flowers—some double and massive, others single and light and graceful; a stately yellow Tree Lupin loaded with flower; its cousins, the varieties of *L. polyphyllus*, with spires of crowded blooms; drooping *Columbines*—in former times the emblems of deserted lovers—double Rockets, Sikkim and Japanese Primroses, and many other flowers which are shining around. Ere this appears the lordly *Delphiniums* will have begun to deck themselves with pale or dark or purple-blue, and with their companion flowers coming on in serried ranks we may stand, unwearied, watching as they pass onward these children of the summer, for with their beauty there is no sameness to pall upon us. And thus, though as I write drenching rain and gloomy skies would fain shadow us with gloom, I lay down my pen cheered with looking and thinking and writing of these flowers, which seem sent to give joy to man, and to inspire him with pure and reverent thoughts.—S. ARNOTT.

NOTES ON FIGS.

FIGS are favourite fruits with many, and appear to be increasing in popularity. They are wholesome, luscious, and easily grown in appropriate structures and under suitable management. The second crops on the trees which ripened the first crop in April and May are now swelling freely, and where judiciously thinned fine fruit will soon be forthcoming. This applies to the very early varieties, Tresfer, Early Violet, St. John's, and Angelique, which must be kept dry as soon as ripening commences. Brown Turkey is later, and affords a good succession, being slightly preceded by White Marseilles. If the crop is heavy, the former thinning not having been sufficient, thin the fruit at once, leaving the most forward at the base of the shoots, which will ripen earlier than the others, and so afford more time for the maturing of the wood. Trees in pots required for very early forcing must not carry a heavy second crop, nor be allowed to bear any fruit near the points of the shoots, otherwise they will not produce a full first crop another year.

Early-forced planted out trees should have the young growths ripened, and be resting by the middle of October. They must not be allowed to bear a second crop at the points of the shoots. If the borders were allowed to get dry when the first crop of fruit was ripening, they must be repeatedly watered until the soil is thoroughly moistened down to the drainage, and a mulch applied. Liquid manure and surface dressings will be required by trees having their roots in borders of limited extent, and more frequently than by trees with a larger extent of rooting area, the former about once a week, and the latter every fortnight, always giving thorough supplies, and equal in temperature to the mean of the house. The mulching need not be heavy, a couple of inches sufficing, and it should be damped when the surface becomes dry, not kept constantly wet, or the roots will not work freely, while the growths will be sappy.

Syringe the trees twice daily, except in dull wet weather, then only to keep down insects, and always to allow the foliage to become dry before night. Forcible syringings are only useful against red spider and generally suffice to keep it in check, but if it gains a footing it must be dislodged, and there is no better means than clear water forcibly applied with a syringe or engine. Softsoap, 3 ounces to a gallon of water, may be used, and scale removed from the wood with a brush moistened with the soapy solution, thoroughly cleansing the trees afterwards with clear water. Painting the hot-water pipes, heated to over 170°, with sulphur brought to the consistency of cream with skim milk is an effectual remedy for red spider. The house should be closed, the foliage dry, and the pipes hot for at least an hour after the sulphur is applied. The trees should be forcibly syringed the following day. Remember that the fumes of sulphur will only kill living parasitic animals and fungi; they have no effect whatever on the eggs, therefore it may be necessary to repeat the applications.

Artificial heat is only necessary in cold dull weather, then gentle warmth in the pipes is necessary to maintain a night temperature of 60° to 65°, and 70° to 75° by day. Ventilate early, especially on bright mornings. Figs detest "stewing," yet no other fruit is more benefited by a high temperature from sun heat; therefore keep through the day at 80° to 85°, and close early so as to increase the heat to 90°, or even 95° to 100°, providing plenty of atmospheric moisture, and allow the temperature to fall to 60° or 65°.

When the fruit changes colour afford a circulation of air constantly, and a free movement of the atmosphere by top and bottom ventilation whenever circumstances allow. Reduce the moisture gradually, and keep it from the fruit, which should be exposed to the influence of light and air as much as possible, then the fruit will be wholesome and delicious.

During the swelling of the fruit a mulch of lumpy short manure 2 inches thick attracts the roots, and the manurial elements become assimilated and washed into the soil at each watering. There must not be any lack of water, and trees carrying heavy crops will need liberal supplies of liquid manure. Withhold it, however, from those having a tendency to over-luxuriance. Trees in borders well drained, properly constituted, and of small area, can hardly be overfed; but wide, deep, rich borders produce overgrowth in the trees, abundance of wood, and grand leaves, but no fruit. Lifting and circumscribing the rooting area constitute the only way to transform fruitless into fruitful trees. Syringe the trees twice a day in fine weather, for the last time early in the afternoon. Ventilate early in the morning, so as to avoid scorching and scalds of all sorts by dissipating the moisture deposited during the night before the sun acts powerfully upon the foliage. Early ventilation secures a long day's work, because evaporation begins soon, and elaboration and assimilation go on with the increasing sun. Rest at night, the temperature falling to a safe minimum, insures the certainty of a renewal of the work with unabated vigour.

Trees under wall cases yield fruit abundantly in August and September. Those do best which are confined at the roots to narrow borders of calcareous soil well drained. The structure must be light, and well ventilated. Keep the growths thin; let the sun shine into the axils of the leaves and on the points of the shoots, then the trees will be sturdy and fruitful. Stop side shoots at the fifth leaf where there is not room for extension growth; but do not crowd the trees with spurs, and avoid late pinching. Ventilate early; retain the sun heat by early closing, with plenty of atmospheric moisture, and keep the borders well watered and mulched. Such is the routine followed in summer, which results in a long supply of delicious fruit.—AN OLD GROWER.

SARRACENIAS.

KEW is one of the few gardens in which *Sarracenia* are cultivated with success; there they are grown in a sunny porch adjoining the Orchid house, and they are always a source of considerable interest to visitors on account of the extraordinary structure of their pitcher-like leaves and their supposed insectivorous propensities. They are, however, specially interesting during the months of April and May, when they develop new pitchers and produce their handsome flowers, which in colour, size, and singularity of structure are sufficiently attractive to rank with first-rate greenhouse-flowering plants. A well-grown specimen of *S. Drummondii*, *S. Patersoni*, *S. ornata*, or *S. Stevensi* could not well be overrated as an ornamental greenhouse plant.

How they should be grown does not appear to be generally known; a few notes on their treatment may therefore be useful to readers of the *Journal of Horticulture*. The six true species of *Sarracenia* known to botanists are natives of North America, where they grow only in swamps or marshes. They are semi-aquatic in a wild state. It is important to bear this in mind when the plants come to be treated in the garden, for although they are not easily killed, even by drought, they do very little good unless they are freely and abundantly watered all the year round. They have a short thick rhizomatous stem, not unlike that of the German Iris, and their roots are very fine and soft. In repotting them in March the plants should be shaken or washed clean of all old soil, dead parts cut away, and then repotted in a mixture of equal parts of peat and sphagnum, pressing this firmly about the plants and just burying the stems. They should then be placed in a sunny greenhouse and kept close until the new pitchers push up, watering them well at least once a day. The flower buds will show at the same time, and if the plants are strong enough they may be allowed to carry a few flowers. A profusion of these, however, can only be had at the expense of the pitchers, so that if good pitchers are wanted few flowers should be allowed to develop.

After the pitchers have grown to their full size more air may be given, until by June the house may be kept as cool as an ordinary greenhouse. The plants must not be shaded; plenty of sunlight and warmth, sweet soil, and abundance of water are the most essential points in the successful cultivation of *Sarracenia*s.

The pitchers have an attraction for flies of all kinds, which appear to become intoxicated through taking the secretion on



FIG. 1.—SARRACENIA STEVENSI (reduced).

the lid of the pitcher, and consequently fall into the pitcher, out of which they cannot escape. It often happens that through catching too many flies the pitchers become overgorged, and the putrid mass formed by the dead flies becomes a source of disease, causing the pitchers to decay. To prevent this it is advisable to stuff a little cotton wool in the mouth of the tube low enough down to be out of sight, and yet near enough to the top to enable the flies to escape.

There are numerous hybrid *Sarracenia*s now, and some of them are larger and handsomer, both in pitcher and flower, than the species. The first hybrid was raised by the late Dr. Moore of Glasnevin, who exhibited it in flower for the first time at the International Botanical Congress held in Florence in 1874. It was

obtained by crossing *S. flava* with *S. Drummondii*, and is intermediate between the two. It was afterwards named *S. Moorei*, and it is still grown wherever *Sarracenia*s are in favour. Since Dr. Moore's success others have followed his example, until we have now about thirty named kinds, some of which are distinct, others not. Evidently the breeders have paid attention to the characters of the pitchers only, for they do not even refer to the flowers in their descriptions of their hybrids. Anyone who has seen the flowers when at their best in a good collection of plants knows what their beauty is. I had a large glass full of them this spring taken from plants which had been allowed to carry too many, and an artist friend well acquainted with garden flowers declared that they formed one of the most attractive posies he had ever seen. Of course he did not know what they were. Cream-white, rose, rose and cream, yellow, crimson, and other shades of red are amongst the colours of *Sarracenia* flowers.

One of the best of the hybrids is that here figured, viz., *S. Stevensi*, which was raised at Trentham by Mr. Stevens, from *S. flava* and *S. purpurea*. It was brought into notice in 1874, about the time when Dr. Moore described his first hybrid. The pitchers of *S. Stevensi* are nearly 2 feet high, broadly inflated, with a very large nearly erect "lid," coloured deep green, thickly mottled with deep claret purple. The flowers are over 5 inches across, greenish white except the broad tongue-like falls (petals), which are deep crimson outside and pale yellow inside. The shield-like ovary is pale green. This hybrid is robust in growth, and when well treated the colour of its fine pitchers is very rich. —W. W.

(To be continued.)



CATTELEYA IRICOLOR.

WHEN, a few weeks ago, Messrs. James Veitch & Sons exhibited the hybrid *Cattleya Philo* with the information that it was a cross between *C. iricolor* and *C. Mossiæ*, many found themselves in the position of being well acquainted with one parent, but totally unfamiliar with the other. *C. iricolor* was, of course, the unknown one, consequently when exhibited by Baron Schröder at the meeting of May the 19th it excited special interest. It is a very distinct species, being a small-growing form with short flattened pseudobulbs and linear oblong leaves. The spike bore three flowers. The sepals and petals are ivory-coloured, the former being very faintly suffused with rose. The lip is narrow, the apical area pure white, streaked with rosy purple towards the back; the throat and side lobes pale lemon with rosy purple streaks in the interior of the tube, the exterior also being blotched with rosy purple. The plant exhibited is the only one in the country. It was bought at Stevens' rooms by Messrs. Veitch & Sons about twenty years ago. It was a very small plant, and was subsequently divided, one or two pieces going to America and the remaining one to Baron Schröder. Although far from being a showy form it is extremely delicate, pleasing, and distinct, well deserving the first class certificate that was awarded to it. Fig. 3 represents it (see page 15).

INDIAN ORCHIDS.

(Concluded from page 489.)

PHALÆNOPSIS is more a Malayan than an Indian genus, yet there are species occurring within the British area that are well worth the attention of amateurs. Of such are *P. Lowi* from Moulmein, a deciduous species growing on limestone rocks, where the surrounding country is under water during the greater part of the year, and the rainfall is excessive; and *P. Parishii* from the same province, a pretty little species with a most remarkable labellum, also deciduous in its native home, but evergreen under the cooler treatment it receives in the glass houses of Europe. *P. speciosa*, from the Andaman Islands, is a handsome recent addition to the genus, and *P. Manni*, from Assam, is interesting as an outlying species growing at a high elevation, and which is known to the writer to be successfully cultivated in a greenhouse in Lancashire.

There is a general belief that the *Phalænopses* are difficult plants to cultivate successfully, and they have been looked upon as horticultural luxuries to be indulged in by a privileged few. It would be futile to assert that such a belief is groundless in the face of the many failures that have occurred since the first introduction of *Phalænopses* into British gardens, and during the long series of

experimental cultural trials before a method could be hit upon with satisfactory results. The difficulty has doubtless arisen from the impossibility of even approximately imitating in the glass houses of England the conditions under which they grow and thrive in their native home. Nearly all the species are either insular or littoral, and grow within the influence of the sea and land breezes. Thus, *P. amabilis* (the *grandiflora* of gardens) grows high up on trees screened from the sun by a leafy canopy, deluged with rain for more than half the year, scorched by a tropical sun during the dry monsoon, and constantly fanned by the sea breeze. *P. Stuartiana* affixes itself to the branches of trees so close to the sea that in some places it can scarcely fail to be washed by the salt spray during a storm. *P. Sanderiana* lives almost under similar conditions. From amidst such environments these lovely Orchids have been brought to Europe to be grown under the artificial conditions provided for them in glass houses, and their culture has hence been one of the most difficult problems the horticulturist has been called upon to solve. Anyone who sees the *Phalænopses* at Tring Park, The Dell, Burford Lodge, Henham Hall, and other places, will find ample evidence of the progress that has been made in the solution of this cultural problem.

The beautiful group of *Phalænopses*—of which *Schilleriana*, *amabilis*, *Aphrodite*, *Stuartiana*, and *Sanderiana* are the most admired species—has been enlarged from two sources—(1) by the introduction of natural hybrids, of which *leucorhoda* or some of its varieties are now to be found in many collections, but of which intermedia is by far the most interesting, as it has also been produced artificially; (2) and by hybrids raised by hand. Among the latter some very striking results have been obtained, notably that raised by Seden from *amabilis* (*grandiflora* of gardens) and *Luddemanniana*, and which bears his name. The plants raised from this cross have flowered at The Dell, and are justly estimated by the accomplished amateur who owns them as the most remarkable instance of the hybridist's skill yet obtained. The whole group of *Phalænopses*, consisting of the species just named and the hybrids, both natural and artificial derived from them, unquestionably forms one of the most lovely sights obtainable in the modern Orchid house.

I will now glance at *Aerides*. Many of the forms, notably those of the *odoratum* type, offer the double attraction of an elegant inflorescence and a delightful perfume. Moreover, the culture of *Aerides* presents no such difficulties as those encountered in *Phalænopsis*. The routine, as formulated by the most experienced growers, is simple, and such as can be performed by the amateur himself if he has the leisure and inclination, or at least by any gardener of ordinary intelligence. Considerable variety, too, occurs in the genus, and even within the groups into which the various forms naturally fall. For example, besides the typical *odoratum*, which has been cultivated from the beginning of the present century, there is its grand congener *Lawrenceana* with its yellow flowered variety that bears Sander's name, and also the beautiful Java form known as *virens*, all quite distinct as horticultural plants, but scarcely so botanically. Another fine group is represented by *Aerides multiflorum*, the *A. affine* of Lindley, of which perhaps its variety *Lobbi*, with its long, pendulous, branched inflorescence is the most admired, but the rare *Veitchii* is scarcely less so, while the closely allied "Fox Brush" *Aerides* follows near upon them.

The group represented by *Aerides falcatum*, the *Larpentæ* of gardens, has been brought into some prominence of late through importations from Burmah, and includes several handsome forms, as *Houlletianum*, *Leonixæ*, and *crassifolium*. *A. crispum* is still recognised as one of the finest of *Aerides*, while in strong contrast to it, and which should not be passed over in silence, is the curious little *A. japonicum*. If we turn to the horticultural journals of twenty to thirty years ago we shall not only find glowing encomiums of the grand specimens of *Aerides* exhibited at the leading horticultural exhibitions of the time, but even woodcut illustrations of some of them. How rarely is a grand specimen of *Aerides* equal to those of our predecessors to be seen at the present day?

Can too much be said in praise of the cultivated *Saccolabium*s, including under that name the beautiful *S. Blumei* and *guttatum*, and the recently introduced *coeleste*, in which we have a really blue Orchid. These must speak for themselves. Let me remark, however, that although known in gardens as *Saccolabium*s they do not botanically conform to the typical species, and they have thence by general consent been removed from the genus. In Veitch's "Orchid Manual" they are described under *Rhynchostylis*. Turning to the true *Saccolabium*s, we find that there are upwards of fifty species, but most of them with small unattractive flowers, and hence it is so few of them are seen in the Orchid houses of Europe; but these few are so striking and handsome that they must at least be named. First, *bellinum*, with its curious bowl-like labellum and unusual combination of colours in

the flowers; then there is the dwarf rose-coloured Hendersonianum from Borneo; and the more robust ampullaceum from the tropical Himalaya; and the scarlet curvifolium from the same region, decidedly the most effective scarlet Indian Orchid, almost rivalling in its showy colour the Mexican Epidendrum vitellinum, the Columbian Ada, and the Brazilian Lælia harpophylla. All these Saccolabiums take up but little room, but there are associated with them the more bulky giganteum from Burmah and violaceum from the Philippines, both very handsome, but which might with equal right be included in Vanda.

The name Vanda is thoroughly Oriental, and is an eminently suitable one for an Oriental genus. In a horticultural sense it is applied to a considerable number of Indian Orchids which differ so much in habit and aspect among themselves that the restriction of the name to a more natural group has become inevitable. In the restricted sense in which Vanda is even now used the species are remarkable for the range of colour observable in the flowers. In some species, as Sanderiana and cærulea, they are of extraordinary attractiveness, in others of so homely a hue that the absence of these from Orchid collections generally is not to be regretted. The stately tricolor of Java and its varieties still hold their own in the estimation of amateurs; and among the dwarfer kinds, cærulescens, cristata, Denisoniana, and especially the latest addition to the genus, Amesiana and Kimballiana, are justly prized.

The successful cultivation of cærulea is, it must be confessed, scarcely an accomplished fact in the full sense of the word, and were it not that this lovely Orchid is plentiful on its native hills England would long since have been its grave. But why? Because the climatic conditions under which it grows in a wild state are simply unapproachable under the artificial arrangements of a glass house in this country. In the first place, it grows at an altitude of 3000 to 5000 feet, where it is not unusual for 8° to 10° of frost to occur in January, while at the opposite season the temperature rises from 80° to 100° F. Secondly, the hilly district, in which Vanda cærulea attains its greatest development, is subjected to one of the heaviest rainfalls in the world, and during the short dry season the plants are fully exposed to the direct rays of a tropical sun. The discovery of a sure method of cultivating this charming Orchid would indeed be a triumph of horticultural skill.

Notwithstanding the length of my review, the great genus Cypripedium should not be passed unmentioned, but both the Indian and South American species, and especially the well nigh innumerable hybrids derived from them, are so popular that they cannot be said to come within the scope of the present paper, the object of which is chiefly to bring under notice many fine Indian Orchids that appear for the time to be receding in public favour, and if anything I have here adduced may tend in the slightest degree to arrest the retrocession my pains will be amply rewarded.—V.

EARLY PEAS.

IN answer to Messrs. Witt and Foster in the *Journal of Horticulture*, June 9th and June 16th, I would advise them to try Veitch's Selected Extra Early Pea for first gathering. It is the earliest variety with which I am acquainted. We sowed in pots on January 25th, planted out the first week in March, and commenced gathering on May 19th. The same treatment was accorded to Chelsea Gem, which was ready for gathering on May 26th. This dwarf Pea is a decided advance on American Wonder. Exonian was sown in the open ground on February 10th, and we commenced gathering it on June 4th. It is of first-class quality, an excellent cropper, and is destined to become a popular variety when its merits are better known.—T. S., *The Gardens, Goodrich Court, Ross*.

DWARF PEAS.

WHEN looking over numerous allotments recently in Surrey I was specially pleased to see just then in fine cropping condition a quantity of both Chelsea Gem and American Wonder Peas. These were undoubtedly the earliest Peas on scores of plots, and had not in any way suffered from drought, whilst taller early Peas had done so materially. I could not but regard these early Peas as most valuable for the allotment holder for various reasons. First, at trifling cost they gave him very early gatherings whilst Peas were yet dear and scarce. Second, they did not materially distress the soil; and third, they were so dwarf that, sown in rows at 24 inches apart, they left ample room for the putting out of Cauliflowers, Cabbages, or other crops between them early in June, as the Peas would be cleared right off by the end of the month. If the closer sowing of the rows needed more seed than is the case with tall Peas at least the cost and labour of staking them was saved, whilst the ease with which a successional crop could follow was great gain. It is a pity that for the mere sake of securing prizes at flower shows these allotment gardeners should be encouraged to grow tall varieties for late purposes. Probably Duke of Albany or some other 5 feet Peas give the finest pods, but if judges would but show greater regard for quality in exhibited Peas, and less for mere size, we should see cottager or allotment gardeners encouraged rather to look to such comparatively

dwarf kinds as Triumph, Stratagem, or Yorkshire Hero, rather than to tall exhausting sorts. Naturally to any allotment holder it is of the first importance that he should fully utilise his ground for the production of winter as well as summer crops, and therefore where summer crops such as late Peas, come off late, I have invariably advised the dibbling out from the seed beds of all kinds of winter cropping plants into other plots where they can make fair growth, for being transplanted later into their permanent positions; very little time is lost in transplanting, and gain is eventually realised.—A. D.

LIVERPOOL NOTES.

FRUIT PROSPECTS.

I THINK it must be generally admitted that the Apple and Pear crop here is one of the most disastrous ever experienced. On every hand "failure" is the only word which can adequately sum up the position. Blossom was abundant, but was blackened by frosts and cutting winds. The following notes may be of interest as representing several places where hardy fruit is grown around Liverpool, and it is to be hoped we may in return hear from other parts of the country as to the state of the fruit crop.

COURT HEY, BROAD GREEN.

Apples and Pears are a very moderate crop. Cherries are very fair, especially Morellos. Of Gooseberries there are scarcely any. Red Currants are a very heavy crop, but Black Currants very few. Strawberries promise a very good crop. Mr. Elsworthy considers it the worst year he has ever had for outside fruit.

RAINFORD HALL, ST. HELENS.

Pears and Plums are a failure. Of Apples there is just a sprinkling on Lord Suffields and Irish Peach. Cherries are a moderate crop. Gooseberries are the lightest crop known here for years. Strawberries promise to be a fair crop. Mr. Middleton informed me that, taken all round, the fruit crop is the thinnest he has had for years, and speaking of Pears he said they all showed an abundance of bloom, but there is not one carrying a good crop. He attributes it to the unripe wood of last season.

BLACKLOW HOUSE, ROBY.

Here I may, with the exception of Green Chisel, Citron des Carmes, Pitmaston Duchess, Winter Nelis, Princess, Beurré Diel, a few Marie Louise and Jargonelles, write all the Pears as complete failures. The Pear weevil has this year done untold damage, many of the fruits at present on the trees showing the ill effects of it. Apples are nil, with the exception of Warner's King, Nelson's Glory, Hawthornden, Lord Suffield, Beauty of Kent, Ecklinville Seedling, Stirling Castle, Tower of Glamis, and Summer Pearmain. These are all carrying good crops, and there are a few Peasgood's Nonesuch and Ribstons. Gooseberries on old trees are a capital crop, and would have been better still had they escaped the severe frosts. Red Currants are a heavy crop. Black Currants on young trees are good. Strawberries are a good crop. Plums are a failure, with the exception of a local variety, which rarely fails, and which is good in many other gardens around here. Raspberries are promising remarkably well.

STIGMAPHYLLON CILIATUM.

This is a beautiful stove climber, either for training on the roof, trellis, or pillar. It bears, in addition to the above name, the appropriate one of the Golden Vine. It is scarcely ever met with, why I cannot say. A good plant trained on a trellis was recently in bloom at Ewanville, Huyton, the residence of Joseph Beecham, Esq. I was so interested in it that I thought a short note on it might be welcome, and perhaps induce more to cultivate it. Cuttings of fairly well ripened wood inserted in a mixture of leaf mould and sandy soil with plenty of good sharp sand, and placed in a propagating case having a brisk heat, will very soon root. They may afterwards be potted separately, using a compost of peat, fibry loam, some good coarse sand, and broken charcoal. If kept in a stove temperature they grow away rapidly, and may be used for many purposes. The pleasing shade of green in the leaves, the beautiful flowers, resembling *Oncidium flexuosum* in shape, but with the colour of *Oncidium concolor*, make it quite distinct from ordinary stove plants. Messrs. Clibran, Altrincham, grow it in quantity and with pleasing results.—R. P. R.

EDUCATION IN GARDENING.

YOUR report on "Education in Gardening," page 450, reminds me of past days, and in looking at the marks awarded at the examinations I do not consider them particularly high. But the reason of this may be in the questions asked, or in too severe a test on the candidates. It was my fortune, in 1868, to attend one of the Society's examinations at Kensington, and in the floricultural subject I was fortunate to get 1160 marks out of a possible 1200. In the fruit and vegetable subject I also obtained a first (I forget the number of marks), but would have scored higher had it not been, as I thought, two "catches," two questions that were of such a description. The candidates, I think, should be examined on questions that are well considered, so as to be a fair test of knowledge. Examinations of gardeners are quite to be commended if only for the qualifications for its own sake. As for getting a position through them that is quite a matter of chance, as the posts in gardening

depend so much upon other circumstances. To obtain my certificates it took two or three years' preparation, which I always look back upon with pleasure.—ROBT. MACKELLAR, *Cheadle*.

[Our correspondent is to be congratulated on his success. He had been trained in the art of gardening, and had considerable experience in gardens prior to his examination, whereas the students to whom he refers had no training of the kind whatever. Prior to October last few of them had any knowledge in gardening, and had taken little or no interest in it, and the examination was the result of attending a course of twelve lectures during the winter months. The questions were formulated by the competent examiners from a list of the subjects treated, as supplied to them by the lecturer. The result is considered as both satisfactory and encouraging.]



TOWN ROSES.

So much has been written on Roses of late that one feels it almost necessary to offer an apology for taking up the pen to add to the already abundant literature on the subject, and yet day by day we receive letters seeking information on various points in Rose culture, which show that the writers have not met with the information they stand in need of or have failed to understand it. The most numerous queries that reach us relate to the management of Roses in and around large towns, and to that phase of the subject I propose at the present moment to give my attention.

Even in and around large towns the disadvantages which vegetable life have to contend with vary to a considerable extent. Dense smoke is not always the most inimical of these. The existence of certain chemical works filling the air with the noxious vapours they exhale are often more pernicious. We have known Roses and other plants prosper fairly well amidst dust and smoke, but succumb rapidly after the working of a manufactory of chemicals. If the latter exist extensively, and the consequences of the mischief they produce cannot be modified by scientific or other means, we fear the cultivation of Roses within their influence will give little satisfaction. But mere smoke, the smoke rising from the consumption of ordinary coke and coal, unless in unusual quantities, may be met and negated to more or less extent by proceedings which, if costly, may yet compensate for the trouble and expense incurred.

In very smoky districts we would not recommend the cultivation of Roses otherwise than under glass. A span-roofed house, the slopes facing east and west, the top lights removeable, is recommended for this purpose. It should be heated with 4-inch pipes, and the plants may be either planted in beds or kept in pots. In districts less smoky the plants may be placed in beds or borders out of doors. As in both cases it is the pursuit of Rose growing under difficulties, no point should be missed that is likely to minimise the existing disadvantages. A good soil should be secured for them to grow in. A careful regulation of the temperature and moisture should be secured for the plants indoors, and shelter in spring and winter be provided for those out of doors. Cleanliness is in both cases very important. Not only keeping the plants free from insects by smoking or washing, but keeping the leaves free from sediments of various kinds should be sedulously attended to. A good syringe is an indispensable instrument for this purpose, and a solution of softsoap and quassia forms an excellent wash. Never allow dirt of any kind to remain settled on the leaves, nor allow any insects to rest there long enough to look upon the plants as a home.

Perhaps one of the greatest mistakes made when about to grow Roses in smoky and other unfavourable districts is in an unfortunate or injudicious choice of plants and sorts. Free-breathing Roses are wanted for smoky districts, as free rooting Roses are wanted for heavy soils. But little attention has hitherto been paid to these distinctions, although the practical cultivator knows how important they are. First let me offer a list of sorts that appear most likely to flourish in and around large towns.

FIFTY ROSES FOR VERY SMOKY DISTRICTS TO BE GROWN UNDER GLASS.

Moss.—Crimson Globe and Zenobia.

Hybrid China, &c.—Charles Lawson, Chénédolé, Coupe d'Hébé, Paul Perras, Paul Ricaut, and Paul Verdier.

Hybrid Perpetual.—Albert la Blotais, Alphonse Soupert, Anna Alexieff, Anna de Diesbach, Baroness Rothschild, Boule de Neige, Captain Christy, Charles Dickens, Charles Lamb, Countess of

Rosebery, Countess of Oxford, Crown Prince, Dupuy Jamain, Edward Morren, Elizabeth Vigneron, Ella Gordon, Général Jacqueminot, Heinrich Schultheis, Inigo Jones, Jean Rosenkrantz, John Hopper, Jules Margottin, La France, Madame Cesar Brunier, Madame Clemence Joigneaux, Magna Charta, Marchioness of Lorne, Merveille de Lyon, Mrs. John Laing, Paul Neyron, Pride of Waltham, Ulrich Brunner, Victor Verdier, and Violette Bouyer.

Noisette.—Bouquet d'Or.

Tea-scented and Hybrids.—Cheshunt Hybrid, Climbing Niphetos, Gloire de Dijon, Madame Berard, The Bride, Sunset, and White Lady.

FIFTY ROSES FOR LESS SMOKY DISTRICTS FOR BEDS OR BORDERS OUT OF DOORS.

Moss.—Baron de Wassenaër and Captain Ingram.

Damask.—La Ville de Bruxelles.

Alba.—Celestial.

Gallica.—Cynthia, Duchess of Buccleuch, Ohl, and Surpasse Tout.

Rugosa.—Mme. Georges Bruant.

Perpetual Scotch.—Stanwell.

Hybrid Perpetual.—Alphonse Soupert, Anna Alexieff, Antoine Mouton, Baroness Rothschild, Boule de Neige, Centifolia Rosea, Coquette des Blanchés, Dr. Andry, Duke of Edinburgh, Gabriel Tourner, Garden Favourite, Général Jacqueminot, Gloire de Margottin, Glory of Waltham, Hippolyte Jamain, Jean Chérpin, La Duchesse de Morny, La France de '89, Lord Bacon, Mme. Isaac Pereire, Magna Charta, Mrs. John Laing, Paul Neyron, Prince Arthur, Princess Louise Victoria, and Prosper Laugier.

Bourbon.—Mme. Baron Veillard and Mme. Desprez, Robusta, Sir J. Paxton, and Souvenir de Malmaison.

Noisette.—Aimée Vibert, Céline Forestier, Rêve d'Or, and Wm. Allen Richardson.

Tea-scented and Hybrids.—Gloire de Dijon, Grace Darling, Pink Rover, Reine Marie Henriette, and Waltham Climber.

Thus far of sorts: we have still a few words to say with regard to the selection of plants. Above all things avoid plants that have been made tender by the employment of excessive heat. In May of this year we were in a house of young Roses where the thermometer stood at 96° in the shade at half-past six o'clock in the evening. The grower very truly said "that was the way to make them grow." But is it the way to produce plants that will flourish in the future under the ordinary conditions of plant life? We think not. What sort of men and women should we expect our children to become if in their infancy they were coddled in this manner? Again, we have heard of plants from the north of Britain recommended on the ground that "they are hardier than those brought up in the south." This is a fallacy. The ripening of the wood is, as all experienced persons know, the true test of hardiness, and the shoots of Roses are not likely to ripen better in the north than in the south. Once more, plants that are overfed for the purpose of getting large and fat flowers for exhibition, and plants that are underfed through indolence or greed of gain, are equally objectionable. Everywhere, and always, but in town gardening especially, the purchaser should look for moderate well-ripened wood when purchasing his Roses; he would do so if about to purchase Grape Vines or Peach trees, and this state of the wood is as important in the one case as in the other.—WM. PAUL, *Pauls' Nurseries, Waltham Cross, Herts.*

IVY-LEAF PELARGONIUM SOUVENIR DE CHAS. TURNER.

A FEW days ago, when visiting Crichel, Lord Alington's charming place near Wimborne, I noticed a fine plant of this variety in the porch of the head gardener's (Mr. Beck) roomy and very picturesque house, which is in the Swiss style of architecture. The plant in question had immense trusses of flowers, consisting of pips between 2 and 3 inches across, the flowers being of a deep pink shade of colour, feathered maroon in the upper petals. It is quite an acquisition to this delightful and very easily managed race of Pelargoniums, and is well worthy of the name it bears. Souvenir de Chas. Turner, like Jeanne d'Arc (white suffused with light lavender) and many others of this interesting and very useful section, is well adapted for furnishing walls and pillars in greenhouse, conservatory, and glass corridors. Plants growing in 16-size pots in a compost of three parts good friable loam and one of leaf soil and pulverised cow manure, with a dash of coarse sand added, will cover a large space of wall or trellis in a short time. After the roots have pushed well into the soil surface dressings of Thomson's or some other approved artificial manure laid on two or three times a week before applying clear water will prove very beneficial, promoting and sustaining a vigorous and floriferous growth in the plants not otherwise obtainable. Evidence of Lord Alington's large, beautiful, and well kept gardens being presided over by a good all-round practitioner and a lover of a natural and beautiful style of arranging and planting trees and shrubs for effect, is plainly visible in every department indoors and out.—H. W. W.



EVENTS OF THE WEEK.—To-day (Thursday, July 7th) there will be Rose Shows at Bath, Norwich, Windsor, Woodbridge, and Lee; the latter extending over Friday. Ware Flower Show will also be held on the 7th. On Saturday, the 9th, Reigate Rose Show will be held, also an Exhibition at Wood Green. On Tuesday, the 12th, the usual Committee meetings of the Royal Horticultural Society will be held at the Drill Hall. The Mantell silver challenge cup (value 25 guineas) for twenty-four Roses, distinct, three trusses of each, open, will be in competition, and in the afternoon the Rev. E. Handley will read a paper on "Orchids for a Cool Greenhouse." A Rose Show will be held at Hereford on the 12th, and the Wolverhampton Floral Fête opens on that date, extending over three days. On the 13th there will be Shows at Ealing, Tunbridge Wells, Bexley, and Bedford; one will also be held by the Royal Caledonian Horticultural Society. On the 14th there will be Rose Shows at Harleston and Helensburgh.

— **THE WEATHER IN LONDON.**—Bright warm weather has been mainly experienced in London and its neighbourhood during the past week. The 2nd and 3rd were fine, but the barometer fell throughout Sunday, and rain was expected. It did not, however, come until Tuesday, the 4th being fine; but during most of the afternoon and evening of the 5th rain fell somewhat heavily. At the time of going to press the weather is bright, and the barometer rising slowly.

— **THE JUNE RAINFALL IN SUSSEX.**—The total rainfall at Cuckfield, Sussex, for June was 3.25 inches, being 1 inch above the average. The heaviest fall was 0.94 inch, on the 28th. Rain fell on thirteen days. Total for the six months 8.17 inches, which is 4 inches below the average. The maximum temperature was 84°, on the 28th; minimum ditto 29°, on the 14th and 15th; mean maximum 67.2°, mean minimum 49°; mean temperature 58.1°. Partial shade readings, 4° below the average. —R. I.

— **THE WEATHER IN SOUTH WESTMORELAND.**—Sunday, the 18th ult., will long be remembered owing to the severity of the hail-storm, which did considerable damage here. The morning was bright and warm, but about noon a thunderstorm set in, accompanied by a severe hail shower which completely riddled all tender plants. Chrysanthemums had fully two-thirds of their foliage beaten off, Celery was left almost leafless. Begonias and Petunias suffered worst in the flower garden, being almost denuded of their foliage; while the leaves of Pelargoniums and hardier plants were completely riddled. Funkias and Lily of the Valley had their leaves torn to shreds, and altogether things had a dejected appearance. Fortunately there was little or no wind at the time, or a great deal of glass would have been broken, as several panes are cracked. The storm was very partial, travelling from north to south. At a mile from here eastward no hail fell, and the same distance in the opposite direction they had about 2 inches, while here it was 6 and 7 inches in depth, and in sheltered places was not melted until the afternoon of the following day. Since that time the weather has been cold and showery, vegetation progressing slowly. —W. J. IRELAND, *Sedgwick, near Kendal.*

— **FRUIT SHOW AT EARL'S COURT.**—We have received the schedule of a great Fruit Show to be held at the International Horticultural Exhibition on August 26th and 27th. It comprises forty-six classes. In the first, prizes of £12, £9, £6, and £4 are offered for a collection of fruit not less than twenty dishes. In the second, £8, £6, £4, and £3 are offered for twelve dishes, and prizes of equal value are offered for ten varieties of Grapes, two bunches of each. There are eleven classes for Grapes altogether, two for Pine Apples, two for Figs, six for Peaches and Nectarines (grown and ripened out of doors), five for Plums, nine for Apples (the first five for outdoor fruit), four for Pears (two for outdoor fruit), and four for Tomatoes. The prizes are good throughout. It is added that in connection with this Show a social gathering of the gardeners of the United Kingdom will be held on the afternoon of the 26th, followed by a dinner in the exhibition building, which, with liquid refreshments included, will be provided at 4s. a head. As only a limited number can be accommodated, the tickets will be issued according to priority of application. Dinner at 5 P.M.

— **STEYNING CHRYSANTHEMUM SHOW** has been fixed for November 3rd. Mr. Walter Slaughter is the Secretary.

— **CALLA PENTLANDI.**—The specific name of this plant is surely rendered incorrectly. I think it ought to be *Pentlandiensis*. The terminal "i" indicates a person, not a place. —E. H. M.

— **CALLA ELLIOTTIANA.**—I should like to ask "Boscobel" (vide p. 496) on what authority he states that the original plant of this Calla is a "hybrid between *C. æthiopica* and *C. hastata*." There are very good reasons for believing that it is a distinct species. —W. W.

— **ROSE JULES MARGOTTIN.**—A French writer estimates, probably with accuracy, that it is by hundreds of thousands that Jules Margottin Rose is increased and sold every year, and the transactions to which it has given rise may be totalled by millions of francs.

— **PRODUCTIVENESS OF CALIFORNIAN ORCHARDS.**—This is a Californian estimate of the productive capabilities of orchards in good bearing condition and under good cultivation. Tons per acre: Apples 4, Apricots 5, Prunes 6, Pears 5, Figs 8, Peaches 5, Walnuts and Almonds each 1½.

— **GLOXINIAS AT RICHMOND.**—Messrs. Sutton & Sons were awarded a first-class certificate at the Richmond Show for their distinct and pure variety Her Majesty. The flowers are smooth, spotless, and massive, showing with great effect in contrast with the dark green foliage. The scarlet and white Duke of York was also certificated, and it is undoubtedly a beautiful Gloxinia.

— **SEQUOIAS AT THE WORLD'S FAIR.**—From California is to be exhibited at the World's Fair one of the famed huge Redwood Trees, or *Sequoia gigantea*. The one selected is 300 feet high, and more than 30 feet in diameter at the base. A specially constructed train will be necessary to carry the monster across the continent. It is the intention to hollow the base into booths, in which will be sold California wines, fruits, and curiosities made of polished redwood.

— **EXPRESS GRAPE GROWING.**—A correspondent writes:—"The question of ripening Grapes in ninety days from starting the Vines is causing some excitement in the north, and gardeners have been subjected to close questioning by their employers. The Sunderland Gardeners' Society is, however, determined to thresh the question out, and a special meeting is summoned, which Mr. Gilchrist is requested to attend and explain the manner in which the feat was accomplished."

— **FIBROUS-ROOTED BEGONIAS.**—It appears likely that Messrs. Sutton are going to provide us with a new and valuable class of Begonias. The two fibrous-rooted varieties, Duchess of Edinburgh and Crimson Gem, exhibited by them at Richmond Show, and certificated, were delightful from their compact habit, free flowering, and charming colours. The former was white margined with rose, a chaste and delicate flower, the latter bright crimson. It will be interesting to watch the development of this class.

— **MOCK ORANGES.**—There is a remarkable display of the beautiful Mock Orange, *Philadelphus grandiflorus*, at Adon Mount, East Dulwich. Dozens of huge bushes are wreathed in blossoms, which stud the long branches in racemes from base to apex. The ivory white flowers are deliciously scented. As grown in this delightful suburban garden the large-flowered Mock Orange is magnificent, but its condition only matches that of other plants, for in Mr. Henderson's hands there are few that do not exhibit their best characteristics.

— **FERTILISERS FOR TOMATOES.**—As the Tomato combines the good qualities of a fruit and a vegetable, its consumption is large and is rapidly increasing. The warm soils of the Southern States of America bring this crop to perfection. Mr. G. Speth, at the Georgia station, has tested the effect on Tomatoes of single fertilising materials, of combinations, and of successive applications of these. The soil was a hard clay, with a clay subsoil. The fertilisers were incorporated with the soil. The application of nitrogen or potash alone did not increase the yield on poor land. The effect of the nitrogen depended on the presence of phosphoric acid and potash. Only the complete fertilisers gave profitable returns. The yield increased with the amount of complete fertiliser used. The nitrate of soda did best in two applications. Phosphoric acid, in double ration, not only decidedly increased the yield, but also furnished the earliest fruit. Large rations of nitrogen, especially in the form of cotton-seed meal, prolonged the time of bearing. These fertilisers were profitably applied in June when cultivating.

— **MEDINILLA MAGNIFICA.**—A fine specimen of this magnificent plant is now flowering profusely in the Victoria House at Kew, standing in the tank. It is a native of the Phillipine Islands, introduced by Messrs. Veitch & Sons through their collector Thos. Lobb. A plant was exhibited at a meeting of the Royal Horticultural Society by Messrs. Veitch as long ago as April 2nd, 1850, and received at that time the Society's large Banksian medal.—C. K.

— **DEUTZIA CRENATA FLORE-PLENO.**—A well-flowered specimen of this fine Japanese shrub may be seen loosely trained to a wall in the Royal Horticultural Society's gardens at Chiswick. Although facing east it is somewhat sheltered, and is flowering in advance of the plants in the borders. The ovate leaves are rough to the touch, and the white or blush-coloured flowers are produced in abundance. It is a wonder that it is not planted more extensively on sheltered borders and shrubberies.—C. K.

— **HARVARD UNIVERSITY** is indebted to the munificence of Prof. George L. Goodale, the Director of the Botanic Garden at Cambridge, Mass., for a remarkable development of the botanical establishment of the University during the last ten years. It has acquired a large fire-proof Museum, to contain not only its collections but its lecture-rooms and laboratories; has added greatly to its collections and its library; and has also obtained larger permanent funds for its support.

— **EARLY PARIS MARKET LETTUCE.**—This fine variety has proved of great service this season. With us it hearts very quickly, and was the earliest Lettuce producing large heads, which are crisp and tender. It should be grown by all. Paris Green has proved a grand Cos Lettuce on our light soil, and although the weather has been exceedingly dry not one plant has bolted. The large full heads of this variety have been our mainstay of late, and have been much appreciated.—H. DUNKIN.

— **PROPAGATING LOBELIAS.**—During an interesting discussion at the last meeting of the Sunderland Gardeners' Improvement Society, the principal point advocated in the increase of these plants was striking the cuttings now in a cold frame. When rooted, the plants are kept close to the glass with abundance of air. By that practice robust cuttings are plentiful in January, and if the plants raised from these are grown in a moderate temperature they assume a sturdy habit and flower early and continuously.

— **JUNE WEATHER IN HERTS.**—The past month has been highly favourable for agricultural and horticultural purposes. With the exception of the frost on the morning of the 14th there has been little to complain of. Of sunshine there has been an abundance and rains frequent. Rain fell on fourteen days during the month. The maximum in any twenty-four hours was 0.61 inch on the 28th; minimum, 0.2 inch on the 19th. Total for the month, 2.71 inches, against 1.40 inch during June, 1891.—E. WALLIS, *Hamels Park, Buntingford, Herts.*

— **DR. LIVINGSTONE STRAWBERRY.**—I am sending you a few Strawberries of Dr. Livingstone so highly spoken of by "A Lanarkshire Bee-keeper." It is highly approved by my employer for its good flavour, and the crop is heavy. The fruits are of fair size with us, those sent being large and small to show a fair sample; grown in dry sandy soil on sharp slope to the S.W. I think on better soil it would grow larger; it follows Noble in ripening.—R. C. [Many of the fruits were spoiled in transit, but those which arrived sound were of excellent quality—the flavour reminding of Keens' Seedling in its best condition, but fuller and richer. Dr. Livingstone, we suspect, is a good Strawberry.]

— **BURNING OLD POTATO TOPS.**—There is very little value in Potato tops except their ash. They are rich in potash, and this mineral is not lost by burning nor made less available. Time was when it was commonly advised to gather Potato tops in the barnyard and rot them down for manure. But this is possibly the surest way to spread the germs of disease. It is quite likely that as the Potato growth begins to decay then disease attacks it and hastens this process. Certainly there is very little bulk left in spring of a large heap of green Potato tops that have lain on the ground through the winter. Burning the tops rids the ground so far as possible of the germs of disease for future Potato crops. Still, whatever care be used, it is never advisable to plant Potatoes twice in succession. The tubers rot worse in gardens than in open fields, where no crop is grown two years in succession, and probably for this reason.—(*American Cultivator.*)

— **GARDENING APPOINTMENT.**—Mr. George H. Head has been appointed gardener to Mrs. Gregory, Oakfield, Reading.

— **A NEW WAY OF DRAINING LAND.**—H. Kennedy writes to the "American Agriculturist" that he has tried the following method of draining his garden, which is located near the top of a hill:—"The soil is a heavy clay about 4 feet deep and underlaid with slate, which is impervious to water. I drilled a 4-inch hole, 12 feet deep, and put in 2 lbs. of dynamite and 25 lbs. of rock powder; then I inserted a double fuse, filled up the hole with dry sand and fired the fuse. The explosion made very little report, but raised the top of the ground at the hole about 2 feet, and the surface was raised all round for fully 30 feet from the hole. The expense was not very great, and the success quite decided."

— **ARCHES OF FUCHSIAS.**—The single Begonia house in Messrs. Veitch & Sons' Nursery at Chelsea is now a beautiful sight. In addition to the Begonias there are a series of Fuchsia arches formed by training plants up the rafters and along the top stays. They are full of luxuriant leafage and brilliant with flowers. Amongst the varieties are *Souvenir de Mrs. Todman*, which is loaded with bloom, *The Shah*, *Maud*, *Elegans*, *Mrs. Todman*, *Olympia*, *General Grenfell*, *Dr. Matthew*, *Andrew Gill*, and *Grande Duchesse Marie*. The plants are in 8-inch pots, a pair being placed side by side and trained up each rafter. Their clusters of graceful flowers drooping down over the pathway in thousands produce a splendid effect.

— **BEGONIA VERNON** (*B. semperflorens atropurpurea*).—It may be well to note the behaviour of this Begonia under exposure in the open. The plants which had been kept under glass last year gave not the slightest sign of being other than a bright-flowered form of *B. semperflorens*. I transplanted them to a sunny border, and never beheld a more remarkable transformation in any plants. Within two days the deep green leaves began to take on bronzy and blood-stained tints of the most striking character, and the indications are that in this variety we have a new bedding plant possessing many excellent points, easily and quickly propagated, bright, striking, showy, and free flowering, dark crimson usually. It should be a good wet weather plant. Its ability to stand full exposure without scorching of the margin of the leaves remains to be tested. It is certainly a variety worthy of trial.—J. N. G. (*in Garden and Forest*).

— **EARLIEST AND BEST VARIETIES OF STRAWBERRIES.**—I am deeply interested in all fruits, but Strawberries in particular, and gladly accept the invitation in "Nomad's" interesting leader, to give my experience, so far. I say "so far," for the Strawberry season in Ireland, and presumably in the greater part of England and Scotland, has only fairly commenced. My earliest variety was *Scarlet Queen*, a comparatively light cropper, but of the most delicious flavour on June 9th on a warm south border, from young plants received direct from the raiser, and which presumably will be finer and larger next season. In flavour this leaves nothing to be desired. *Noble* came next, just a few days later; it has larger berries, and is, at least with me, three times a heavier cropper. I admit it has not the rich vinous flavour of *Scarlet Queen*, but when grown in the open without any shading the flavour is rich and luscious. For market purposes I have yet to learn the name of any variety to compare with *Noble*. *Vicomtesse Héricart de Thury* came next, and whatever it does in other soils (I will refer to mine later on), I shall be obliged to discard it. *Competitor* (*Laxton*) was the next, and I am not sure it will not be the largest fruit and heaviest cropper of twenty varieties I shall test. It may be described as scarlet orange, and for an early Strawberry seems very prolific. *Commander* closely followed, and in bearing aloft its finely flavoured fruits, on stout stalks, is distinct from any other. The flavour is excellent, but I notice the later fruits on the stalks, unless the plants are fed, will be smaller. *White Knight* I have been gathering fine fruit of, but it would be a mistake to suppose it is "white," the colour being light scarlet, and shading to white underneath where the light could not reach. This variety, like most others, likes plenty of room, and does best on a somewhat raised bed. The shape of the berries reminds me of *Auguste Nicaise*, but they are not so long or conical; it is a heavier cropper. Strange as it may seem, *Sir Joseph Paxton* has wholly failed with me on a south-east aspect, and *British Queen* on a west makes more growth than fruit. *Dr. Hogg* is medium, and *James Veitch* very prolific. *Latest of All* promises well. Mine is a walled-in town garden, fully exposed, and with light soil of a limestone formation on a gravelly subsoil. I must decidedly keep manuring and feeding.—W. J. MURPHY, *Clonmel*.

— TREES IN GERMAN CITIES.—In most of the German cities visited I was surprised to find the Elm so little used as a shade tree, but in Hamburgh the English Elm (*Ulmus campestris*) is quite commonly planted, and there are some fine avenues of it, forming beautiful Gothic arches over a number of streets. Very uniform rows of the Linden (*Tilia vulgaris*) are also to be seen, all the trees being of about the same size, at equal distances apart, and in fine condition. The advantage of planting only one kind of tree in a single line is well shown, and altogether the streets of this city are much better than the average in the matter of shade. Sometimes the foliage of the Lindens, Maples, and Elms had a grey appearance, owing to attacks by little red mites, and in a few cases the Lindens had lost many leaves from this cause.—J. G. JACK (in *Garden and Forest*).

— EFFECT OF SPRAYING ON THE APPLE SCAB.—The subject was investigated most thoroughly at the Ohio Station last season. The conclusions may be stated briefly as follows:—The growth of the scab fungus may be checked by spraying the trees at proper times during the spring, with several of the copper compounds used as fungicides. The most convenient and satisfactory one tested so far, considering the cost, convenience, and effectiveness, is a dilute Bordeaux mixture, containing 4 lbs. of copper sulphate, 4 lbs. of lime, and 50 gallons of water. While it has not been found practicable to completely prevent the growth of scab in a single season, the experiments demonstrate that it is practicable to so reduce the injury from the fungus that the total value of the crop will be greatly increased, far more than is necessary to repay the cost of using the fungicides. Judicious spraying with fungicides also tends to check the dropping of immature fruit in the spring; to cause it to grow larger in size; more free from blemishes; to hang better on the tree while ripening, to take on a higher colour, and to improve its keeping quality. Measured by the market value, spraying added nearly 100 per cent. to the value of the crop at little more than 6d. per tree. It has also been demonstrated that the Plum Curculio may be held in check by spraying almost as effectually as by jarring, and far more cheaply.

— PROGRESS IN BEGONIAS.—As an enthusiastic admirer of the Tuberous Begonia, and the grower of a large collection of all the finest sorts I can get direct from their raisers both at home and on the Continent, and having been the first to bed them out in the kingdom. I have read your correspondent "W. P. W.'s article on my favourite flowers with considerable interest, but all his statements are not accurate. For instance, Picotee is not unique of its kind as he states, as for the last two years I have grown a most beautiful variety under that name, raised by the well-known grower Mr. B. R. Davis of Yeovil, after whom Monsieur Crousse of Nancy has named one of his finest varieties. In habit of growth and size of flower Mr. Laing's variety is doubtless a great advance on the Yeovil variety, but as to the distinctness of the red margins to the petals I do not think there is much to choose between them. Then he leads one to suppose that all the beautiful varieties he mentions were raised at Stanstead Park Nursery by Mr. Laing, whereas many of them, such as Major Hope, Mrs. French, and others that I cannot now remember as I have not your paper by me to refer to, were raised and sent out by Monsieur Félix Crousse of Nancy, from whom I had them direct. Your correspondent should come and see my collection.—W. E. GUMBLETON.

— FLAVOUR IN MELONS.—Whilst it is impossible to lay down any rule with respect to Melons I think none the less that green flesh varieties more often exhibit good flavour than do either white or scarlet flesh varieties. Another thing which seems to mark Melons is that big fruits, however handsome, are seldom well flavoured, and in that respect these fruits seem to follow the lead of ordinary fruits and vegetables, for with large ones what is known as quality is rarely associated. Six very large and handsome Melons were sent to the last meeting of the Fruit Committee of the Royal Horticultural Society for certificate, and they were commended to attention because represented as weighing 29 lbs. The one tasted, however, proved to be almost unpleasant, whilst of other Melons the only really good flavoured one was a medium sized mottled green flesh. I fear that we shall never get a Melon which gives constant quality. That excellence it is feared never will come to any variety; indeed it is doubtful whether with all the crossings and intercrossings which go on on every hand any real progress is made either in flavour, in fidelity to character, in hardiness or in prolificacy, or has been made during the past twenty years. If it can be shown that real advance has been made I shall be very pleased to learn; but this much is certain, that no grower, even if he has a hundred of the best looking fruits of the very best reputed sorts,

can guarantee that any one or a score of fruits he may select as the best flavoured will exhibit any special excellence whatever when tasted. No doubt very great judgment is needful in determining when a Melon is at its best, and if one be on a given day exceptionally good, then be cut and kept perhaps for three days, the flavour has disappeared. Many Melons when cut show the flesh throughout either too soft and pulpy or one-half quite hard, the inner flesh too soft or perhaps too hard throughout. A perfect Melon is one of a thousand fruits.—A. D.

— COLDER SEASONS AND VEGETATION.—Mons. Flammarion, the French astronomer, has recently been directing attention to the climatic changes in France. According to the United States Consul at Bordeaux, he states that, from actual figures obtained within the past six years, the temperature of Europe has been falling. France has been suffering for a long time from an excess of cold weather, the thermometrical readings at Paris having been 1° Centigrade below the normal height. Other readings show even less favourable results. The fall is more noticeable in the spring than during other periods of the year. Similar phenomena are recorded in Great Britain, Belgium, Spain, Italy, Austria, and Germany, while the really cold countries, such as Denmark, Norway, Sweden, and Russia, have enjoyed during the last four years a temperature slightly above the average. In the days of Philippe Auguste, in the thirteenth century, the wines of Etampes and Beauvais were the favourite beverages at Court. Henry IV., a pronounced *bon vivant*, frequently expressed his fondness for the product of the Suresnes Grape. At the present day there is not a vineyard of importance north of Paris; and as for the *petit vin* now made at Suresnes, it has become only the drink of the poorer classes. In the middle of the sixteenth century Maçon was celebrated for its Muscat wines, whereas the Muscatel Grape at this moment can scarcely be made to thrive there. Ancient chronicles mention the cultivation of the Vine in Northern Brittany, where now even Apples are not plentiful. Again, it is to be remarked that trees which once flourished in the north of France are at present found only in the extreme south, and a considerable number have disappeared altogether. Languedoc no longer grows the Lemon; there is not an Orange left in Roussillon. The Lombardy Poplar, so familiar and picturesque an object in old French line engravings, is nowhere to be found on French soil. These are facts which, says Consul Knowles, putting statistics out of the question, serve to illustrate the changes wrought by temperature in the great fruit-producing country of France.



CHRYSANTHEMUM NOMENCLATURE.

I THINK I am fairly entitled to a reply to Mr. Molyneux (page 451, June 16th). If your correspondent will refer to his Journal for November 27th, 1890, page 474, he will find a long report of the Alverstoke and Gosport Show. In the principal class for twenty-four blooms, half incurves and half Japanese (distinct), he will there find J. Lambert and Emily Dale Improved (or Golden Queen) shown in the first prize stand by a neighbour of his, Mr. Agate, who is a good grower. I now call on Mr. Molyneux to be as good as his word, for he said the admission of my sport in prize stands with Golden Queen of England would be the time to admit its distinctness. I hope Mr. Molyneux will not blame the Judges. Does he know that John Lambert was certificated at Bristol? The Judges there nor the Floral Committee of the N.C.S. could hardly be mistaken.—J. LAMBERT, *Powis Castle, Welshpool, N. Wales*.

[We agree that our correspondent is entitled to this reply, since he has at last given the reference for which readers were waiting—the report of the Alverstoke Show; and now Mr. Molyneux is equally entitled to answer Mr. Lambert.]

COMMON CARNATIONS.

I OBSERVE some remarks made by "P." upon this subject in your last issue, to which I venture to take exception. I gather that he recommends the sowing of "seed of cheap border varieties," and I cannot refrain from asking why he should sow cheap or common seed when good reliable seed is within the reach of everyone who will take the trouble to raise it. The difference between good and bad seed is about as follows:—From cheap, and therefore probably foreign seed, he will get perhaps 10 per cent. of double or semi-double flowers, rough and

fimbriated, which the most elementary "florist" would consign to the rubbish heap; and from good seed he would get 50 or 60 per cent. of doubles—many good, and possibly one or two very good, a credit to himself and a pleasure for years to come to those who love Carnations.

I quite allow that "florists' Carnations" are not such free seeders as the mass of foreign sorts with which too many English gardens are overrun, but there are many good free and vigorous varieties which may be had at but small cost, and which are worthy of a place on the exhibition table, and at the same time may be relied upon to seed freely. The first cost of a few shillings for plants is all the outlay required, and the only precaution necessary is to move the plants under cover of some sort during the autumn to prevent the seed pods being rotted by the rain. The process of fertilisation is absolutely simple, and the result I venture to affirm will well repay the small cost and labour involved.

I thoroughly agree with your correspondent as to the beauty and profusion of bloom displayed by a bed of Carnation seedlings, but I hold it to be foolish to be content with indifferent seed when a small outlay and a little trouble will provide him with the best. The difference of quality of the produce will convince the most idle or economical that the needful trouble and money have been indeed well laid out.—
MARTIN R. SMITH.

CORNUS KOUSIA.

At the meeting of the Royal Horticultural Society on June 21st Messrs. James Veitch & Sons exhibited a handsome shrub under the name of *Cornus Kousia*. Its luxuriant and attractive leafage, which is oval shaped and rich green, and the pure white Trillium-like fragrant flowers, combined to attract considerable attention and admiration, and a first-class certificate was awarded.

Cornus Kousia is figured and described in Siebold's "Flora Japonica," I., page 30, t. 16, under the name of *Benthamia japonica*. The genus *Benthamia* has long since been very properly merged into *Cornus*, and hence the present name of the plant has probably in some measure obscured its origin. According to Siebold it is a dense bushy shrub about the height of a man, or a little higher, growing wild on the mountains of Kinsin and Nippon in Japan from 2000 to 4000 feet elevation, flowering in May and June. Messrs. Veitch's plants were obtained about twelve or fourteen years ago from Japan through Mr. Maries. The species may have been introduced earlier into Dutch gardens by Siebold himself, but we do not remember seeing any plants besides those of the Chelsea firm, and we believe it is still very rare in British arboreta, if represented at all. Its affinity with the Himalayan *Cornus* (*Benthamia*) *fragifera* is very manifest.

This appears to be in every way a distinct shrub, and should prove a valuable addition to gardens. Bushes such as those described growing in Japan could not have otherwise than a picturesque effect when clothed with pearly flowers, such as are depicted in the engraving.

ROSE SHOWS.

NATIONAL ROSE SOCIETY, CRYSTAL PALACE.—JULY 2ND.

It is well understood that an Englishman's favourite topic is the weather, and when the Englishman happens to be a Rose grower as well it becomes a subject of absorbing interest. This is but natural considering what an influence the weather has upon the flowers, and how completely it may favour or foil the exhibitor. To a large extent he is at the mercy of the elements. To point to a familiar instance, compare 1889 with 1891, or, more recent still, with 1892. In the former hot early season the southern flowers were hurried on with the grower powerless to apply a brake, and the date of the National Society's Show at the Crystal Palace found them somewhat past their best. What was their poison, however, was the northern growers' meat, and, as will be remembered, Messrs. Harkness & Son won the nurserymen's trophy with a magnificent stand, following this up with a remarkable series of victories in other parts of the country. But time brings its revenges. 1890 found the Yorkshire growers unable to raise anything approaching their strength of the previous year, and the southern and western rosarians fought out the issue, Mr. Frank Cant of Colchester proving victorious in the great class. Worse still was 1891. Messrs. Harkness hardly had any blooms out, even on their cut-backs, while Mr. Frank Cant could not get a representative stand together, and consequently the winners of 1889 and 1890 both had to stand down and, like Achilles, leave the fray to others. Under these circumstances Mr. B. R. Cant came to the front once more, scoring his sixth win since the institution of the trophy. This year has again proved to be a late season, and once more the Bedale exhibitors found it impossible to get a stand together. Both the Cants were, however, able to do so, and with Messrs. Paul & Son of Cheshunt, and Turner of Slough, also competing, the issue lay between four southern growers. It was quickly observable that there was going to be a very hard tussle between the Colchester namesakes for the first place. In size, form, and freshness there seemed nothing to choose between them at a cursory inspection,

and it was only after lengthened examination and careful pointing that a decision could be made, Mr. Frank Cant scoring his third win.

In the amateurs' section Mr. E. B. Lindsell appears to have made up his mind to take the trophy under his protecting wing and keep it there. He did not compete in the class for it in 1889, when Mr. W. J. Grant won, but, encouraged apparently by his success in other classes then, he entered in 1890, won the trophy, repeated the process in 1891, and this season by another success claims the splendid record of three consecutive victories, a feat which has never been accomplished before. His last win was not by any means an easy one, Mr. Budd surprising many by the excellence of his stand, and giving his redoubtable opponent a hard fight. With perseverance he may yet have the pleasure of seeing his name in the honours list; he has improved, and may improve more.

As to the general quality of the flowers in these and other classes it may fairly be put down as satisfactory. Probably few expected the blooms to be so good considering the lateness of the season and the earliness of the Show. They were not quite up to the average in point of size, no doubt owing to maidens not yet being ready, which always means loss of weight, but in other respects they were very good, the brightness, freshness, and finish of the flowers being very noteworthy. The entries were numerous throughout, the exhibition filling the large concert room and one side of the auditorium.

Some curiosity was naturally felt as to how the new arrangement of exhibitors in which they are classed in accordance with the number of plants grown would result. It appears to be a marked success, bringing into the field a number of small exhibitors who would, in all probability, not have ventured forth under the old order of things. It entails a considerable amount of class repetition, but that is unavoidable, and the end in view justifies it.

The following are particulars of the awards:—

NURSERYMEN'S CLASSES.

The leading class in this section was for seventy-two distinct varieties, single trusses, and with which there were four entries. As is generally the case the competition was keen, but the palm was awarded to Mr. Frank Cant, Braiswick Nursery, Colchester, for a beautiful collection. The blooms were remarkably even and delightfully fresh. They were shown in three boxes, twenty-four blooms in each. The blooms were staged as follows:—Box 1, back row: A. K. Williams (good), Mrs. J. Laing, Etienne Levet, Merveille de Lyon, Countess of Oxford, Pride of Waltham, François Michelin, and Madame Eugène Verdier. Middle row: Marie Verdier, Exposition de Brie, Lady Mary Fitzwilliam, Dr. Sewell, Mary Bennett, Dr. Andry, La France, and Louis Van Houtte. Front row: Comtesse de Ludre, Comtesse de Nadaillac, Prince Camille de Rohan, Queen of Queens, Cheshunt Scarlet (good), Lady Helen Stewart, Mons. E. Y. Teas, and Souvenir d'un Ami. Second box, back row: Dupuy Jamain, Margaret Dickson, La France 1889 (a darker variety than the original La France), Souvenir d'Elise Vardon, Rosieriste Jacob (very good), Jeannie Dickson, Charles Darwin, and Gustave Piganeau. Middle row: Madame Cusin, Francisque Rive, Maréchal Niel, Crown Prince (very fine), Souvenir de la Malmaison, Marie Baumann, Emily Laxton, and Annie Wood. Front row: Countess of Rosebery, Marguerite Boudet, Marchioness of Lorne, Heinrich Schultheis, Gloire de Bourg-la-Reine, Auguste Rigotard, Pride of Reigate (good), and Horace Vernet. Third box, back row: Ulrich Brunner, Madame Gabriel Luizet, Suzanne Marie Rodocanachi, Madame de Watteville, Duke of Edinburgh, Marie Finger, Star of Waltham (good), and Her Majesty. Middle row: Germaine Caillot, Prince Arthur, The Bride, Boieldieu, Niphotos, Général Jacqueminot, Baroness Rothschild, and Charles Lefebvre. Front row: Duchess of Bedford, Viscountess Folkestone, Duke of Wellington, Victor Hugo (grand), Le Havre, Ernest Metz, Reynolds Hole, and Madame Caroline Kuster. The second prize fell to Mr. B. R. Cant for a grand collection of blooms, though not quite so even as those in that of his opponent. He, however, was awarded the Society's silver medal for the best Tea or Noisette, showing a grand bloom of Souvenir d'Elise Vardon. Her Majesty, Mrs. Paul, Victor Hugo, Duke of Teck, and Baroness Rothschild were also specially good in the second prize collection. Messrs. G. Paul & Son, The Old Nurseries, Cheshunt, gained the third prize, showing a meritorious collection, amongst which Captain Christy, Victor Verdier, Horace Vernet, and Charles Lefebvre were very good.

The entries in the class for forty-eight distinct, three trusses of each, were not numerous, but the competition was very keen. Mr. Frank Cant here also carried off the leading honours, staging one of his characteristic collections. The blooms were very fresh and even. The varieties shown were Merveille de Lyon, Madame Pereire, Horace Vernet, Etienne Levet, Heinrich Schultheis, Dr. Sewell, Marie Verdier, Marguerite de St. Amand, Madame Eugène Verdier, Ulrich Brunner, Louis Van Houtte, Pride of Waltham, Maurice Bernardin, Hon. E. Gifford, François Michelin, Duc de Wellington, Prince Arthur, Mrs. John Laing, Countess of Rosebery, Madame Gabriel Luizet, Baroness Rothschild, Fisher Holmes, Lady Mary Fitzwilliam, Victor Hugo, Crown Prince, Catherine Mermet, Duke of Edinburgh, Madame de Watteville, Cleopatra, Dupuy Jamain, Souvenir d'un Ami, Marie Baumann, Her Majesty, A. K. Williams, Madame Cusin, Marie Finger, La France, Duke of Connaught, Jeannie Dickson, Innocente Pirola, Fisher Holmes, Comtesse de Ludre, Général Jacqueminot, Pride of Reigate, Boieldieu, Emily Laxton, Alfred Colomb, and Souvenir d'Elise Vardon. Mr. B. R. Cant was a close second, the blooms in this case being not quite so fresh as in the first-prize stand. Still, it was a remarkably fine collection, and at an ordinary show would have taken

the leading place. Mr. C. Turner, Slough, was awarded the third prize for a stand of fresh though small blooms.

For forty-eight distinct, single trusses, there were six entries, and after a close competition the first prize was awarded to Messrs. G. Cooling and Sons, Bath, for charmingly fresh blooms. The varieties in this contribution were—Back row, first box: Heinrich Schultheis, Baroness Rothschild, A. K. Williams, Pride of Waltham, Horace Vernet, Duchesse de Vallombrosa, Victor Hugo, and T. W. Girdlestone. Middle row: Madame C. Kuster, Barthelemy Joubert, Etoile de Lyon, Robert Marnock, Marie Cointet, Violette Bouyer, Sénateur de Vaisse, and Général Jacqueminot. Front row: Ulrich Brunner, Princess Beatrice, Countess of Oxford, Lady Mary Keith, Baron Haussmann, Merveille de Lyon, Le Havre, Duchesse de Morny. Second box, back row: Madame Isaac

Middle row: Marie Baumann, Gloire Lyonnaise, Heinrich Schultheis, Hon. Edith Gifford, Mons. E. Y. Teas, Madame Gabriel Luizet, Dupuy Jamain, and Mrs. J. Dickson. Front row: Baroness Rothschild, Cheshunt Hybrid, Souvenir d'un Ami, Star of Waltham, Countess of Pembroke, Prince Camille de Rohan, Catherine Mermet, and Duke of Wellington. The second prize went to Mr. J. Mattock, The Market, Oxford; and the third to Mr. G. W. Piper, Uckfield, Sussex. In both cases the blooms were fresh and bright.

The entries in the class for twenty-four distinct trebles were more numerous, there being no less than eight competitors. The leading prize went to Messrs. B. Prior & Son, Myland Nurseries, Colchester, for a collection of even and fresh blooms. In this case the flowers were shown in three boxes, and comprised the following varieties:—Mrs.



FIG. 2.—CORNUS KOUSIA.

Pereire, Comte de Raimbaud, Ernest Metz, Dr. Andry, Mrs. J. Laing, Duke of Connaught, Madame G. Luizet, and Suzanne Marie Rodocanachi. Middle row: Anna Ollivier, Madame M. Verdier, Dupuy Jamain, Madame Cusin, Sénateur Vaisse, La France, A. Dumcsnil, and The Bride. Front row: Mrs. Watson, Prince Arthur, Mons. Noman, Maréchal Niel, Marguerite de St. Amand, Victor Verdier, Hon. E. Gifford, and Magna Charta. Messrs. G. & W. Burch, Peterborough, were the winners of the second prize in this class, and the English Fruit and Rose Company, Limited, King's Acre, Hereford, came in third. Messrs. Burch's blooms were rather small, but delightfully fresh and even.

There were five entries in the class for twenty-four distinct, single trusses. Mr. W. Taylor, Oxford Nursery, Hampton, Middlesex, was placed first for a stand of beautiful blooms. The varieties shown were—back row: Marquise de Castellane, Le Havre, Her Majesty, Louis Van Houtte, La France, Victor Verdier, Mrs. J. Laing, and Ulrich Brunner.

J. Laing (good), Catherine Mermet, Etienne Levet, Merveille de Lyon, Marie Baumann, Jean Ducher, Prince Arthur, Baroness Rothschild, Général Jacqueminot, Souvenir d'Elise Vardon, La France, A. K. Williams (good), Horace Vernet, Duchesse de Vallombrosa, Lady Mary Fitzwilliam (very fine), Fisher Holmes, Maréchal Niel, Ulrich Brunner, Innocente Pirola, Heinrich Schultheis, Niphctos, Alphonse Soupert, Vicomtesse Folkestone, and Sultan of Zanzibar. Messrs. G. & W. H. Burch were awarded second prize for a collection of fresh, though small blooms; and Mr. G. Mount, Canterbury, secured the third prize.

AMATEURS' CLASSES.

In class 6, forty-eight blooms, distinct, the principal amateurs' class, there were six stands, and the competition was so close that the making of the awards proved to be a difficult and prolonged task. Eventually the first prize went to Mr. E. B. Lindsell, Bearton, Hitchin, whose flowers have been so backward that a few days ago his success appeared

to be impossible. The blooms had, however, come on very rapidly during the past day or two. They were not large, but were perfection in freshness, colour, and finish. The varieties were as follows—Back row : Dupuy Jamain, Comtesse de Nadaillac, A. K. Williams, Innocente Pirola, Duke of Wellington, Marquise de Castellane, Ulrich Brunner, François Michelin, Gustave Piganeau (very fine), Lady Mary Fitzwilliam, Duke of Edinburgh, Mrs. John Laing, Prince Arthur, Baroness Rothschild, Horace Vernet (very fine), and Her Majesty. Middle row : Captain Christy, Mons. Noman, Etoile de Lyon, Dr. Sewell, Madame de Watteville, Charles Lefebvre, Catherine Mermet, Xavier Olibo, Caroline Kuster, Alfred Colomb, Madame Cusin, Star of Waltham, Souvenir d'Elise, Prosper Laugier, Etienne Levet, and Comte de Raimbaud. Front row : Sir Rowland Hill, The Bride, Maurice Bernardin, Niphetos, Marie Rady, Marie Van Houtte, Louis Van Houtte, Duchesse de Vallombrosa, Dr. Andry, La France, Reynolds Hole, Prince of Wales, Suzanne Marie Rodocanachi (very good), Francisca Krüger, Abel Carrière, and Madame G. Luizet. Mr. Lindsell's success in winning the trophy for the third season in succession is worthy of every praise. Mr. S. P. Budd, 8, Gay Street, Bath, was second with a very beautiful collection of flowers, although not of the largest size. His Grand Mogul, Etienne Levet, Mrs. John Laing, Comtesse de Nadaillac, and Souvenir d'Elise Vardon were very fine, especially the latter, which was a superb bloom. The Rev. J. H. Pemberton, Havering-atte-Bower, Romford, was third, also with an admirable stand. As usual he will no doubt improve as the season goes on.

In class 7, for thirty-six blooms, distinct, there were five stands in competition here, and Mr. J. Brown (gardener to Mrs. Waterlow, Great Doods, Reigate) was the winner. His flowers were medium to small in point of size, but well coloured, clear, and fresh. The varieties were as follows :—Back row : Mrs. J. Laing, Duke of Edinburgh, Pride of Waltham, Duke of Wellington, Marie Finger, Mrs. Baker (a splendid bloom), La France, Dupuy Jamain, Her Majesty, Duke of Teck, Vicomtesse Folkestone, and Heinrich Schultheis. Middle row : A. K. Williams, Marquise de Castellane, Xaxier Olibo, François Michelin, Victor Hugo, Mdme. G. Luizet, Star of Waltham, Marie Rady, Mdme. Isaac Pereire, Marie Cointet, Lord F. Cavendish, and Duchesse de Vallombrosa. Front row : Merveille de Lyon (very fine) Jean Liabaud, Suzanne Marie Rodocanachi, Prince Camille de Rohan, Dr. Andry, Louis Van Houtte, Mons. E. Y. Teas, Baroness Rothschild, Le Havre, Alfred Colomb, Etienne Levet, and Duchess of Bedford. Mr. C. J. Salter (gardener to T. B. Haywood, Esq., Reigate) was second. His flowers were in good condition, but undersized throughout. The Rev. A. Foster Melliar, Sproughton Rectory, Ipswich, was third.

In class 8, twenty-four distinct, Mr. Walter Drew, Uplands, Ledbury, had the best of four stands, his varieties being as follows :—Back row : Général Jacqueminot (a grand flower), Merveille de Lyon, Lord Bacon, Her Majesty, Jean Soupert, François Michelin, Duke of Wellington, and La France. Middle row : Mrs. John Laing, A. K. Williams, G. Dickson, Prince Arthur, Marie Verdier, Duke of Teck, Madame G. Luizet, and Ulrich Brunner. Front row : Louis Van Houtte, Marquise de Castellane, Exposition de Brie, Heinrich Schultheis, Earl of Dufferin, Niphetos, Dupuy Jamain, and a charming lilac-pink sport unnamed. These were in excellent condition, and formed a strong stand. Mr. A. Hill Gray was second with smaller but very fresh flowers, and Mr. J. Gurney Fowler, Glebelands, Woodford, was third.

In class 9, sixteen distinct, three trusses of each, Mr. Lindsell scored another victory, his varieties being as follows—Back row : Chas. Lefebvre, Madame G. Luizet, Dupuy Jamain (splendid), La France, Ulrich Brunner, Niphetos, François Michelin, and Innocente Pirola. Front row : Madame Cusin, Exposition de Brie, Souvenir d'Elise Vardon, Prince Arthur, Caroline Kuster, Dr. Sewell, Mrs. John Laing, and Mons. E. Y. Teas. They were a very fine collection. Mr. Budd was second with smaller flowers, but equally good in other respects, and Mr. A. Slaughter, Steyning, was third. These were the only exhibitors. In class 10, twelve varieties, distinct, three trusses of each, first Mr. Walter Drew, Ledbury, with Ulrich Brunner, La France, Général Jacqueminot, Mrs. J. Laing, Duke of Teck, and a variety unnamed, apparently Marquise de Castellane, in the back row ; Madame G. Luizet, A. K. Williams, J. Dickson, Comte de Raimbaud, Dupuy Jamain, and Duke of Edinburgh in the front row. Mr. J. Brown was second with a charmingly fresh stand, and the Rev. A. H. Berners, Harkstead Rectory, Ipswich, third. There were ten stands in all. In class 11, twelve single trusses of any H.P., there were no less than twelve boxes. The first prize went to Mr. J. Brown for a beautiful dozen of Mrs. John Laing, not large, but in superb condition. Mr. A. Hill Gray, Beaulieu, Bath, was second with a fine stand of La France, and Mr. S. P. Budd third with Ulrich Brunner, richly coloured, and very fresh.

Classes 12 to 16 inclusive were reserved for growers of less than 2000 plants. With twenty-four single trusses, distinct, there were three competitors. The Rev. W. J. Romaine, The Priory, Old Windsor, was first with the following varieties :—Back row : Countess of Oxford, Mrs. John Laing, Le Havre, Etienne Levet, Her Majesty, Earl of Dufferin, Marie Verdier, and a fine bloom of Ulrich Brunner. Middle row : Madame G. Luizet, Camille Bernardin, La France, Maréchal Niel, Louis Van Houtte, Comtesse de Nadaillac, Heinrich Schultheis, and Souvenir d'Elise Vardon. Front row : Madame Welche, A. K. Williams, Ethel Brownlow, Eclair, Madame Bravy, Suzanne Marie Rodocanachi, and Prince Arthur. These were somewhat uneven in merit, but formed a fairly strong stand. Mr. J. C. Tasker, Middleton Hall, Brentwood (gardener, Mr. J. Perry), was second with Magna Charta, The Bride, and Ulrich Brunner, very good. Mr. W. Narroway had only twenty-one

blooms in his stand or he would certainly have received a prize ; as it was there was no other course than disqualification. There were four stands of eighteen distinct varieties, the winning one coming from Mr. E. M. Bethune, Denne Park, Horsham. He staged the following varieties :—Back row : Mrs. Baker, Duke of Edinburgh (a splendid bloom), La France (very fine), Chas. Darwin, Dupuy Jamain, and Marquise de Castellane. Middle row : Eugène Fürst, Madame Isaac Pereire, Sir Rowland Hill, Rosieriste Jacobs, Madame Gabriel Luizet, and Chas. Lefebvre. Front row : Alfred Colomb, Marie Finger, A. K. Williams, Mrs. John Laing, Marie Baumann, and Duchess of Bedford. These were larger, well formed, and very fresh flowers, forming a very fine stand. Mr. F. T. Baker, Holmfels, Reigate, was a good second, his Mrs. John Laing, Etienne Levet, and Madame G. Luizet being beautiful blooms. Mr. E. Mawley, Rosebank, Berkhamsted, was third with smaller but fresh flowers. In the class for twelve single trusses Mr. W. H. Fowler, Claremont, Taunton, had the best of three stands, his varieties being—Back row : Innocente Pirola, Comtesse de Nadaillac, Rubens, and Cleopatra. Middle row : Ernest Metz (a grand flower), Catherine Mermet, Souvenir d'Elise, and Princess of Wales. Front row : Madame Cusin, Niphetos, Francisca Krüger, and Anna Ollivier. Mr. F. Warde, West Malling, was second, and he had a grand Her Majesty, the third prize falling to Mr. E. Wilkins, Sutton. Class 15, eight distinct, three of each. Here Mr. Wilkins won well, his flowers being very fine. The varieties were Chas. Lefebvre, Madame G. Luizet, Ulrich Brunner, Earl of Dufferin, Le Havre, Maurice Bernardin, La France, and A. K. Williams. Mr. P. G. C. Burnand, Reigate, also had a beautiful stand, and was a highly creditable second ; the third prize going to the Rev. W. J. Romaine. There were six stands in competition. For nine single trusses of any H.P., first Mr. E. M. Bethune with a fair stand of Madame G. Luizet, second and third Mr. Wilkins and the Rev. W. J. Romaine, both with the same variety. There were four stands in all.

Classes 17 to 20 inclusive were devoted to growers of less than 1000 plants. For twelve distinct, single trusses, first, Dr. Tucker, Swanley Junction, with a very good stand, his varieties being as follows :—Back row : Ulrich Brunner, Marquise de Castellane, Chas. Darwin, and Her Majesty. Middle row : Captain Christy, A. K. Williams, La France, and Abel Carrière. Front row : Dr. Hogg, Mrs. J. Laing, Duke of Edinburgh, and Etienne Levet. Mr. C. J. Grahame, Coombe Road, Croydon, was third with an excellent stand, and Mr. R. L. Knight, Bobbing, Sittingbourne, third. There were thirteen stands in all. The Rev. H. B. Biron was first with nine blooms, showing Chas. Lefebvre, Innocente Pirola, Ulrich Brunner, Madame G. Luizet (very beautiful), A. K. Williams, Duke of Wellington, Le Havre (very fine), Marie Finger, and Etienne Levet. The Rev. J. S. Taylor, Littleton Vicarage, Evesham, was a very good second, and Mr. C. E. Cuthell, Chapel Croft, Dorking, third. There were seven stands in this class. In class 19, six distinct, three trusses of each, Dr. Tucker had the best out of six stands, La France, A. K. Williams, Comtesse de Nadaillac, Dr. Hogg, Madame G. Luizet, and Abel Carrière representing him. They were small but otherwise good. Mr. O. G. Orpen, West Bergholt, Colchester, was a good second, and Mr. Cuthell third. For six single trusses of any H. P. : First, Dr. Tucker with Her Majesty, very large but somewhat coarse flowers. Second, Mr. Jas. Parker with Madame G. Luizet. Third, Mr. Grahame with Marie Baumann. There were eight stands.

Classes 21 to 23 inclusive were reserved for growers of less than 500 plants. For nine distinct, single trusses, Mr. H. Foster, Ashford, won with Etienne Levet, A. K. Williams, Dr. Bullion, Marie Baumann, Merveille de Lyon, Marie Rady, Madame G. Luizet, Marguerite Brassac, and Mrs. J. Laing. Mr. G. Moules, Hitchin, was second ; and Mr. Rutter, Halliford, third. There were five stands. For six distinct, single trusses, Mr. E. Horne, Park House, Reigate, was a very good first with Ulrich Brunner, François Michelin, Marquise de Castellane, Chas. Lefebvre, Madame I. Pereire, and Madame G. Luizet. Mr. H. P. Landon, Brentwood, was second, with large but somewhat coarse flowers ; and Mr. Hugh White, Highgate, third. There were seven stands. For four distinct, three trusses of each, Mr. Edward Horne won with La France, Chas. Lefebvre, Marie Baumann, and Madame Bravy. Second, Mr. E. B. Denton, Stevenage. Third, Mr. Crofts, gardener to W. D. Freshfield, Esq., Reigate. There were six stands.

Class 24, six single trusses, was only open to amateurs who have never won a prize at an exhibition of the N.R.S. There were thirteen stands. Mr. W. H. Fowler won with Ernest Metz, Souvenir d'Elise, Princess of Wales, Comtesse de Nadaillac, Cleopatra, and Catherine Mermet—a capital box. Mr. W. Hooper was second, and Mr. S. F. Francis, Orpington, third. For six distinct, single trusses, grown within eight miles of Charing Cross, Mr. R. H. Langton, Roymead, Hendon, was first with Captain Christy, Mrs. J. Laing, Duke of Edinburgh, La France, Souvenir de S.A. Prince, and Souvenir d'Elise Vardon. Mr. Walter Northover, Crouch End, was second, and Mr. J. Bateman, Highgate, third. There were five stands in all. With six new Roses, distinct, the Rev. J. H. Pemberton was first, staging Madame Caroline Testout, Gustave Piganeau, T. W. Girdlestone, Mrs. Wm. Watson, Augustine Guinnoisseau, and Jeannie Dickson. There was one other stand, which was disqualified through the inclusion of Cleopatra.

TEAS AND NOISETTES.

For twenty-four Teas or Noisettes, distinct, single trusses (nursery men), Mr. G. Prince, Oxford, was awarded first prize, showing a box of grand blooms, amongst which Madame Cusin and Innocente Pirola were particularly good. Mr. Frank Cant gained second, and Mr. B. R. Cant

third prize. For eighteen distinct, single trusses, Mr. John Mattock was placed first with a stand of even blooms, and Messrs. B. Prior and Sons were awarded second honours, the third prize falling to Messrs. Burrell & Co., Howe House Nurseries, Cambridge. Mr. Frank Cant was awarded first prize for twelve single trusses of any Tea or Noisette other than *Maréchal Niel*. This exhibitor staged a stand of beautifully fresh and even blooms of *Madame de Watteville*. Messrs. G. & W. Burch secured second place with *Niphetos*, and Mr. B. R. Cant was third with *Madame de Watteville*. Mr. G. Prince was awarded the first prize for eighteen Teas or Noisettes, three trusses of each, the blooms shown being fresh and even. Monsieur Furtado, *Madame de Watteville*, and Anna Ollivier were very good in this collection. Mr. J. Mattock, Oxford, was second, and the third prize went to Mr. Frank Cant. In each case the flowers were exceedingly good. Three blooms of *Souvenir de Thérèse Levet* in the second prize stand attracted some attention, the flowers being of very bright colour.

The best stand of eighteen Teas or Noisettes in the amateurs' section was staged by Mr. A. Hill Gray, Newbridge Hill, Bath, the blooms being remarkably fresh and even. The best varieties were *Catherine Mermet*, *The Bride*, *Cleopatra*, *Souvenir d'Elise Vardon*, *Jean Ducher*, and *Comtesse de Nadaillac*. The last named was a splendid bloom, and one of the best in the Show. The Society's champion challenge trophy was awarded for this stand. The Rev. F. R. Burnside, Birch Vicarage, Hereford, gained the second prize, and the Rev. H. Berners was third. Mr. W. H. Fowler staged the best twelve Teas or Noisettes, single trusses, amongst which *Madame de Watteville*, *Cleopatra*, *Madame Cusin*, *Ernest Metz*, *Prince of Wales*, and *Catherine Mermet* were very fine. Messrs. E. B. Lindsell and T. B. Haywood were awarded second and third prizes respectively. Mr. A. Hill Gray secured the first prize, and the Townsend-Boscawen Memorial plate for twelve Teas or Noisettes, distinct, three trusses of each. The best flowers in this stand were Anna Ollivier, *Souvenir de Thérèse Levet*, *Comtesse de Nadaillac*, and *Maréchal Niel*. The Rev. F. R. Burnside was second. The best stand of nine single trusses of Teas or Noisettes was shown by the Rev. H. Berners, the variety being *Innocente Pirola*. Mr. E. M. Bethune, Denne Park, Horsham, was second with *The Bride*, and Mr. E. B. Lindsell third.

Classes 35 to 38 inclusive were reserved for growers of less than 500 plants. Mr. O. G. Orpen was first with twelve single trusses, Mr. C. J. Grahame second, and the Rev. F. Page Roberts, Scole Rectory, third. There were six stands of nine single trusses, and Mr. E. Wilkins secured the premier award with some very fresh, neat flowers, Mr. Walter Drew and the Rev. W. J. Romaine being second and third. The best half dozen trebles came from Mr. Burnand, whose flowers, though somewhat small, were in perfect condition; the Rev. F. Page Roberts was second, and Mr. O. G. Orpen third. There were five other stands. Mr. Grahame had the best six of any Tea or Noisette, winning with a charming stand of *Mdme. Cusin*; Mr. Alfred Tate was second with *Souvenir d'Elise*, and the Rev. J. H. Pemberton third with *Madame Caroline Kuster*. There were eleven stands in competition.

Classes 39 and 40 were reserved for growers of less than 500 plants. There were eight stands of nine single trusses, Mr. E. Mawley winning with a very beautiful box, although the flowers were somewhat small; Dr. Tucker was second, and Mr. Freshfield third, four others showing. In class 40, six distinct varieties, there were twelve stands, the best coming from Miss Cuthbert. She had a splendid *Mdme. Cusin* in her box, and the remaining flowers were also good. The Rev. F. S. Taylor was second, and Mr. Cuthell third.

OPEN CLASSES.

For twelve single trusses of any yellow variety except *Maréchal Niel*, Mr. G. Prince, Oxford, was placed first. He had an excellent box of *Comtesse de Nadaillac*; Mr. Mattock was second with *Amazone*, and Mr. Frank Cant third with *Madame C. Kuster*. There were six stands altogether. For twelve of any white except *Niphetos* Mr. Frank Cant was first with a beautiful box of *The Bride*, the Rev. F. R. Burnside being second with *Innocente Pirola*, and Mr. J. Mattock third with *Rubens*. There were nine other stands. For twelve of any crimson except *Marie Baumann* or *A. K. Williams* Mr. B. R. Cant was first with a grand box of *Dupuy Jamain*, Mr. Mount second with *Ulrich Brunner*, and Messrs. G. Cooling & Sons third with *Fisher Holmes*. There were eight stands in all. For twelve of any dark velvety crimson Mr. G. Mount was first with a good box of *Fisher Holmes*, Messrs. Cooling & Sons second with *Abel Carrière*, and Mr. B. R. Cant third with *Duke of Edinburgh*; two others competing. Mr. A. Hill Gray had the best twelve of *Maréchal Niel*, an excellent dozen, Mr. Frank Cant second, and Mr. G. Mount third. There were two other stands. Mr. Mount had the best *Marie Baumann* (a fine box), Mr. B. R. Cant second, and Messrs. Hugh Low & Co. third. These were the only exhibitors. Mr. Frank Cant won with twelve of *Mrs. John Laing*, having a grand dozen, Mr. B. R. Cant second, and Messrs. D. Prior & Sons third. There were ten stands of this popular variety. The best twelve of *A. K. Williams* came from Mr. B. R. Cant, Messrs. Paul & Sons, Cheshunt, second, and the English Fruit and Rose Company, Limited, third. There were five other boxes. Messrs. Keynes, Williams & Co., Salisbury, won with *Niphetos*, having a delightful box of their climbing form. Messrs. G. & W. H. Burch, Peterborough, were second, and Mr. Frank Cant third. There were twelve stands in all. Mr. Frank Cant won with *Her Majesty*; Messrs. Paul & Son, Cheshunt, second. For twelve of any H.P. not named in the schedule Mr. B. R. Cant was first with a beautiful box of *Madame G. Luizet*, Mr. C. Turner second with the same variety,

and Messrs. Prior & Son third with *La France*, there being eighteen more stands. For six single trusses of *The Bride* and six of *Catherine Mermet*, to be arranged alternately, Mr. G. Prince was first, Mr. Frank Cant second, and Mr. A. Hill Gray third. There were nine boxes of these in all.

For twelve blooms of any new Rose Mr. B. R. Cant was first with a fine box of *Gustave Piganeau*. The second prize went to a delightful dozen of the beautiful *Bourbon Mrs. Paul*, presumably from Messrs. Paul & Son, though the card was not discoverable; and Mr. Frank Cant third with *Gustave Piganeau*, little inferior to the first prize box. There were seven stands. There were only two stands of twelve new varieties, Messrs. Paul & Son, Cheshunt, being first with *Marchioness of Dufferin*, *Marie Margot*, *Mrs. Paul*, T. W. Girdlestone, *Gustave Piganeau*, *Elise Fugiere*, *Violet Queen*, *Madame Caroline Testout*, *Augustine Guinoisseau*, *Salamander*, *Gustave Regis*, and *Margaret Dickson*. Mr. Frank Cant was second. Amongst the new seedlings were *Henry Gow* (Star of Waltham x *President Leon de St. Jean*), a rich crimson H.P., from Mr. G. B. Baskett, The Gardens, Eashing Park, Godalming; H.P. Spenser, soft pink; *Tea Corinna*, and H.T. *Lady H. Grosvenor*, from Messrs. W. Paul & Son, Waltham Cross; *Capt. Hawyard*, a new rich crimson of good form, from Mr. E. Bennett, Chigwell; *Clara Watson*, a blush variety of good form, from Mr. Prince; and *Mrs. W. J. Grant*, from Messrs. A. Dickson & Sons, Newtownards, bright rose with shelly petals.

Messrs. Paul & Sons, the Old Nurseries, Cheshunt, won with thirty-six bunches of garden Roses. They had a delightful collection which evoked much admiration. Messrs. G. Cooling & Sons were second, and Mr. E. F. Such third. In the amateurs' class for eighteen Mr. Cuthell won with a very beautiful stand, the Rev. J. H. Pemberton being second, and Miss Mellish, Worksop, third. Mr. J. Mattock won with clusters of buttonhole flowers, followed by Mr. Alfred Evans and Mr. Frank Cant. Mr. Cuthell appeared to be the only exhibitor of single Roses, and was placed first.

THE PREMIER BLOOMS.

The premier H.P. in the nurserymen's section was a magnificent example of *Gustave Piganeau* exhibited by Mr. B. R. Cant, and the best Tea was a grand bloom of *Souvenir d'Elise Vardon* from the same exhibitor. Mr. E. B. Lindsell, Bearton, Hitchin, secured the silver medal for the best Hybrid Perpetual in the amateurs' section with a noble specimen of *Dupuy Jamain*. The best Tea or Noisette in this section was a massive bloom of *Souvenir d'Elise Vardon*, shown by Mr. Alfred Tate, Downside, Leatherhead.

MISCELLANEOUS EXHIBITS.

Messrs. W. Paul & Son had a magnificent group not for competition. In the centre was a number of standard *Polyantha* Roses, with Ferns and cut blooms interspersed. On the right and left were Roses in pots, together with numerous boxes and baskets of cut blooms, Ferns and foliage plants being arranged here and there. A beautiful box of *White Lady* was very noticeable, and so was a basket of the fine Tea *The Queen*. The new climbing Tea *Princess May* is delightful in colour and perfume. Messrs. J. Cheal & Son had a brilliant collection of Roses, herbaceous flowers, and Violas. Messrs. Carter & Co. had a table of Cacti and succulent plants, large and representative in character, which attracted much attention. Messrs. J. Laing & Son had a delightful display of hardy flowers, one of the best they have ever arranged, which is high praise. They also had a large and beautiful group of *Begonias*, *Orchids*, and other flowering and foliage plants, with several boxes of Roses in front. Messrs. J. Peed & Son had some splendid *Caladiums*, large, well grown, and finely coloured plants, giving an imposing effect. Messrs. Barr & Son had a long table of hardy flowers very attractively furnished. Messrs. J. Veitch & Sons contributed several boxes of cut Roses, including some very fine blooms, especially *Vicomtesse Folkestone*, *Sir Rowland Hill*, and a beautiful lustrous rosy pink named *Caroline d'Arden*. Lord Penzance had a beautiful display of his ennobled *Briars*. Messrs. H. Cannell and Sons staged a collection of *Begonia* blooms tastefully arranged with *Maidenhair Fern*.

INTERNATIONAL HORTICULTURAL EXHIBITION.—JULY 5TH.

WITHOUT going so far as to say that the Rose Show at the International Horticultural Exhibition justified the claim made for it in advance that it would be the most remarkable display of Roses ever held, it must be conceded that it was one of great beauty and diversity. Roses were largely and well shown, while *Begonias*, hardy herbaceous flowers, decorated tables, and a great number of miscellaneous exhibits swelled its extent and effect. It was held in the two Exhibition annexes in the western gardens, and these formed a brilliant spectacle. So far as the quality of the Roses was concerned most good judges who were present at both Exhibitions will no doubt agree that it was in advance of the National Rose Society's Show. The leading stands were somewhat heavier throughout. Evidently the extra time had benefited them.

The principal trade class was that for seventy-two blooms, distinct, single trusses, and in this Mr. Frank Cant, Braiswick Nursery, Colchester, followed up his success at the Palace with a brilliant victory. He had an extremely strong stand, his blooms being large, fresh, and well finished. *Gustave Piganeau* was a magnificent example, while *Le Havre* was also grand. Other fine flowers were *Comtesse de Nadaillac*, *Suzanne Marie Rodocanachi*, *Innocente Pirola*, *Cleopatra*, *Mdme. Hippolyte Jamain*, *Comte de Raimbaud*, *Sir Rowland Hill*, *Etienne Levet* (superb), *A. K. Williams*, *Niphetos*, and *Horace Vernet*.

This appeared to be several points stronger than Mr. Cant's Palace stand. Mr. B. R. Cant was second, but he was further in the rear than at the other Exhibition. His best flowers were Gustave Piganeau, Mdme. de Watteville, Niphetos, Comte de Raimbaud, Her Majesty, La France, A. K. Williams, Le Havre, and The Bride. The flowers were a shade past their best. Messrs. Paul & Son, Cheshunt, were third. With thirty-six blooms the position of the Colchester exhibitors was reversed, Mr. B. R. Cant being first and Mr. Frank Cant second. There were not many points between them, and the blooms throughout were of medium merit. Mr. G. Prince, Market Street, Oxford, was third with smaller but fresh flowers. Mr. Chas. Turner won with twenty-four blooms, distinct, having an excellent stand with Her Majesty, Earl of Pembroke, Maurice Bernardin, and Abel Carrière very good. Messrs. G. and W. H. Burch were second with a delightfully fresh stand, and Messrs. Keynes, Williams & Co. third.

Mr. B. R. Cant won with forty-eight trebles, staging a really grand collection. There was hardly a bad bloom in the stand, and many were very good, notably Le Havre, Horace Vernet, Niphetos, Alfred Colomb, Madame de Watteville, Lady Mary Fitzwilliam, and Souvenir d'Elise. Messrs. Paul & Son, Cheshunt, were second with smaller, but fresh, well coloured flowers. Mr. Frank Cant won with twenty-four trebles, Her Majesty, Madame Cusin, Marie Baumann, and Ernest Metz being good. Mr. Chas. Turner was second, and Mr. George Prince third.

In the amateurs' section Mr. Lindsell had some grand blooms. His winning stand of eighteen trebles was a beautiful one, La France, Madame de Watteville, Her Majesty, and François Michelin being exceptionally fine. The Rev. J. H. Pemberton was second, and Mr. Henry O. Machin third. Mr. Lindsell also won with forty-eight singles, and here he had a superb stand, perhaps one of the best he has ever arranged. In freshness, finish, and lustrous colour the blooms were almost perfect. Particularly fine were Ulrich Brunner, Souvenir d'Elise, Horace Vernet, A. K. Williams, Dr. Andry, Madame de Watteville, Her Majesty (small, but very beautiful), and The Bride. The Rev. J. H. Pemberton followed at a considerable distance, but with a bright, fresh stand, and Mr. Machin was third. Mr. R. L. Knight had a very good stand of eighteen singles, although there were one or two weak flowers, and secured the premier award, the second going to Mr. P. Perry, gardener to J. C. Tasker, Esq., and the third to Mr. J. Bateman, Highgate.

Teas and Noisettes were excellent. Mr. B. R. Cant won with twenty-four, and though not large they were in excellent condition. Niphetos, Souvenir d'Elise, Devoniensis, and Cleopatra were very good. Mr. Frank Cant was a close second, his flowers, however, being a trifle too old; and Mr. G. Prince third. Mr. Mount won with eighteen—a moderately good stand; Mr. G. W. Piper being second with smaller but very fresh flowers; and Messrs. Paul & Son, Cheshunt, third. The best stand of twelve of any Tea came from Messrs. Keynes, Williams, & Co., who were represented by Niphetos; Mr. B. R. Cant was second with Madame de Watteville; and Mr. Prince third with Comtesse de Nadaillac. Mr. Frank Cant won with eighteen trebles, a charming stand; Mr. Prince was second, and Mr. Mount third.

In the amateurs' section Mr. Lindsell staged a magnificent stand of eighteen singles, the blooms being perfect in colour and freshness. It is a pleasure to see such a stand. The flowers were so even in merit that particularisation was difficult. The Rev. J. H. Pemberton also had an excellent stand, and was placed second, while Mr. Machin came third. Mr. Knight won with twelve blooms. Mr. B. R. Cant showed a charming stand of Innocente Pirola in the class for twelve of any one Tea, and was placed first, Mr. Frank Cant being second with Madame de Watteville, and Mr. Prince third with Maréchal Niel.

Messrs. Paul & Son were first with garden Roses, and Mr. E. F. Such second. For twelve of any H.P. Messrs. Perkins & Son were first with a splendid box of Lady Mary Fitzwilliam, Mr. Turner second with A. K. Williams, and Mr. B. R. Cant third with Gustave Piganeau. Messrs. W. Paul & Son, Waltham Cross, were first for three of any new seedling with Corinna, and Messrs. Paul & Son, Cheshunt, second with Paul's Early Blush. For nine of any Tea introduced since 1889 Mr. G. Prince was first with Souvenir de S. A. Prince, and Messrs. Paul & Son, Cheshunt, second with Ernest Metz.

The general exhibits were very numerous. The tables were very beautifully furnished, the first prize one being that of Mr. Sydney T. Spalding, and the second that of Mrs. Helen Butt. Messrs. Perkins and Sons were victorious both with bouquets and baskets, which were arranged in their usual tasteful style. With stands or vases Mr. J. R. Chard showed the most conspicuously. Mr. T. S. Ware was placed first for a collection of hardy flowers, having one of his strongest displays. Messrs. Barr & Son were second, and Messrs. Paul & Son, Cheshunt, third. Mr. C. Gibson won with twelve bunches of perennials in the amateurs' section, and Mr. Sage, gardener to the Earl of Dysart, was first with eighteen. A silver medal was awarded to Messrs. W. Peed and Son for their fine Caladiums, and a silver-gilt medal for Sarracenias, while they received second prize for Gloxinias.

Near the West Brompton entrance Messrs. Sander & Co. had arranged a large and beautiful collection of Orchids, and amongst the interesting things included in it were *Cypripedium Wallisi*, *Epidendrum alatum*, *Cypripedium Curtisii* (a remarkably handsome species), *Odontoglossum Bleui* splendidissimum, splendidly flowered plants of *Cypripedium superbiens*, *Vanda Sanderiana*, many fine varieties of *Miltonia vexillaria*, *Cattleya gigas Sanderiana* (a fine variety), *Cattleya du Buyssoniana*, and *Sobralia lutescens*. Messrs. Kelway & Son received a silver-gilt medal for a magnificent collection of Delphiniums, also Gaillardias,

Irises, and other hardy flowers. Messrs. Wills & Segar showed Palms. Messrs. J. Laing & Son had a bright display of hardy flowers and several stands of Roses, receiving a silver-gilt medal. Messrs. W. Cutbush & Son had a collection of Crotons, Dracenas, and other plants. Messrs. Cannell & Sons exhibited a collection of Begonias, cut blooms, arranged in bunches and set off with Fern, which were very attractive, and merited the silver-gilt medal awarded. M. Ed. Pynaert Van Geert exhibited a remarkable plant of *Sobralia macrantha nana*, 6 feet in diameter, very healthy, and freely flowered. A silver-gilt medal was awarded. Mr. C. Turner showed a new Delphinium named Moonstone, pale blue with mauve shading. Messrs. E. D. Shuttleworth & Co. had several groups of foliage plants. In the trade class for table plants Messrs. Peed won, and in that for amateurs Mr. C. Lane was successful.

Two splendid groups of Tuberous Begonias were in competition, one coming from Mr. T. S. Ware and the other from Messrs. J. Laing & Son. They were essentially different in character, the former being superior in arrangement, the latter in quality of bloom. Opinions differed as to which was the better of the two, but the decision of the Judges was in favour of Mr. Ware. Messrs. Laing & Son were placed first for a collection of foliage Begonias.

Fruit was not very largely shown, but it was very good. Mr. G. Thompson, gardener to Messrs. W. & E. Wells, won with Grapes. Messrs. Taverner & Bowerman following. Mr. A. Gibson, gardener to T. F. Burnaby Atkins, Esq., won with three dishes of Strawberries, and Mr. Divers with one dish. The latter won with Peaches and Mr. W. Robins with Nectarines, other prizes in these classes going to Messrs. Sage, J. Gibson, Ocock, P. Blair, and G. R. Allis. A gold medal was awarded to Messrs. Parsons & Bourgaize, Covent Garden, for a collection of market fruit, and a silver-gilt medal to Mr. F. Le Poidevin, Guernsey, for a similar display. The latter had some good Grapes and Figs. The first prize for a collection of twelve dishes of fruit fell to Mr. W. Robins, gardener to Colonel Lee, and that for six dishes to Mr. A. Ocock, gardener to Mrs. McIntosh. In the special Grape classes Messrs. Thompson and Bowerman distinguished themselves, the former with a magnificent bunch of Madresfield Court, the latter with a fine cluster of Buckland Sweetwater. Messrs. Osman and Taverner also exhibited good bunches. Mr. W. Allan, Gunton Park Gardens, sent several fine boxes of Strawberries, including the three seedlings Lord Suffield, a conical medium sized very dark fruit; Gunton Park, very large, wedge shaped, and dark crimson; and Empress of India, a bright scarlet conical fruit.

Outside the annexes Messrs. W. Paul & Son, Waltham Cross, exhibited a most extensive and beautiful collection of Roses, comprising about 10,000 blooms. It richly merited the gold medal that was awarded.

IPSWICH.—JUNE 29TH.

It was not my first introduction to East Anglia by any means, for many years ago, long before I had become so enamoured of the Rose, I had been there. I had been there, too, in days when Rose amateurs were few, and, under the guidance of my friend Mr. Ben Cant, had visited good old Mr. Hedge of Reed Hall, who was then *facile princeps* as a Rose grower. I had since then also been with him to see his world-renowned nursery, but it was my first visit as a Judge; and certainly a rougher welcome, as far as weather was concerned, I could not possibly have had, for on the Tuesday night previous to the Show there was the most terrific thunderstorm I think I ever witnessed. The day had been fine, and we were all saying Ipswich will not share its usual fate—a wet day, when ominous clouds gathered in the west, opposite to where the wind was, and about nine o'clock it came with full force. I never remember seeing such vivid and prolonged lightning; the rain came down in torrents, and one felt that if any exhibitors had been deluded enough to wait until the morning to cut their blooms it was all up with them. Wednesday was not a wet day, but excepting that it was about as miserable a day as it was possible to conceive for a flower show. It was cold, dark, and dreary; it drizzled at times, and I fear the takings at the gate were an evidence of this; but, on the other hand, there was a bright and cheerful scene within the tents, forming a pleasing contrast to that without.

The Exhibition was held in spacious tents erected in the beautiful grounds of Christ Church House, close to the town and next to the arboretum. It is very rarely that so large a town as Ipswich has so grand a park close to it with a fine old house of Elizabethan and Jacobean architecture, and containing some magnificent timber. It has been offered to the town, and it may be hoped that it will not be permitted to pass into the jerry builder's hand and be cut up into "eligible plots for building purposes," as has been the case with so many fine old places, especially when they have been contiguous to towns. It was on this occasion kindly lent by the owner, J. S. Fergusson, Esq., and a more beautiful spot for an exhibition could not well be found.

The Roses of East Anglia have long been famous. Mr. Ben Cant, the oldest exhibitor, if not grower, of cut flowers in England, long ago made it famous, and of later years Mr. F. Cant has added to it, while in Tea Roses the noble army of parsons have established and maintained its reputation as one of the most favoured spots in England, although some of them have suffered terribly by these last two winters, notably Mr. Page Roberts, who has been completely placed *hors de combat* through his excessive losses, consequently one was prepared to see a good display of that lovely class. Nor were one's expectations disappointed. A most lovely clean and well-developed set of flowers was displayed, added to by those of the Rev. F. R. Burnside, who travelled all night across England "to beard the lion in his den, the Douglas in his hall," a feat which he accomplished successfully by taking off the first prize in the class for eighteens.

In the class for forty-eight Mr. Frank Cant was first with a collection of bright well-grown Roses, comprising Countess of Oxford, Catherine Mermet, Charles Lefebvre, Marie Finger, Comte de Paris, Souvenir d'un Ami, François Michelin, The Bride, Horace Vernet, Elise Vardon, Etienne Levet, Madame de Watteville, Lady Helen Stewart, Lady M. Fitzwilliam, Duke of Edinburgh, Heinrich Schultheis, La France, Exposition de Brie, Marie Van Houtte, Beauty of Waltham, Jeannie Dickson, Général Jacqueminot, Vicomtesse Folkestone, Prince Arthur, Augustine Guinoisseau, Duke of Teck, Innocente Pirola, Marie Susanne Rodocanachi, Madame Cusin, Marie Rady, Her Majesty, Charles Lamb, Marguerite Dickson, E. Y. Teas, Caroline Kuster, Antoine Ducher, Ernest Metz, Pride of Waltham, Cleopatra, A. K. Williams, Marie Cointet, Dupuy Jamain, Marguerite St. Armand, Camille Bernardin, Hon. Edith Gifford, Duke of Connaught, Madame Gabriel Luizet. Mr. Benjamin Cant was second. In the class for thirty-six distinct Messrs. Prior & Sons, Colchester, were first with Lady M. Fitzwilliam, Alphonse Soupert, Marie Van Houtte, Reine Marie Henriette, Mons. Noman, Auguste Piganeau, La France, A. K. Williams, Mrs. J. Laing, Duke of Edinburgh, Baroness Rothschild, Mary Bennett, Catherine Mermet, Constantin Fretiakoff, Merveille de Lyon, Abel Carrière, Anna Ollivier, Heinrich Schultheis, Jean Ducher, Prince Arthur, Madame G. Luizet, Boieldieu, Maréchal Niel, Ulrich Brunner, Souvenir d'Elise, Alfred Colomh, Niphotos, Charles Darwin, Caroline Kuster, Duchesse de Morny, Captain Christy, Madame Lambard, Countess of Rosebery, Marie Finger, Edith Gifford, and Countess of Pembroke. Mr. Burrell of Cambridge was second with a good stand. In the class for twelve trebles Mr. F. Cant was again first with some of the best varieties named in his forty-eights. Mr. B. R. Cant was second, and Prior & Son third. In the class for eighteen Teas Mr. Frank Cant was again first with Madame de Watteville, The Bride, Madame Cusin, Maréchal Niel, Catherine Mermet, Souvenir d'Elise Vardon, Souvenir d'un Ami, Souvenir de S. A. Prince, Perle des Jardins, Innocente Pirola, Marie Van Houtte, Ernest Metz, Francisca Kruger, Princess of Wales, Cleopatra, Hon. Edith Gifford, Caroline Kuster, and Anna Ollivier. Mr. G. Prince, was second, and Messrs. Prior and Sons third, and in this box was one of the finest blooms of Marie Van Houtte ever exhibited.

In the amateur classes, in that for thirty-six, the Rev. H. A. Berners was first with an excellent stand. In the class for twenty-four, Mr. J. Gurney Fowler, Gleheland, Woodford, Essex, was first with Duke of Teck, Her Majesty, Duke of Edinburgh, Ulrich Brunner, Countess of Oxford, Pride of Waltham, Dr. Andry, A. K. Williams, Mrs. J. Laing, Rossieriste Jacobs, Charles Lefebvre, La France, Marie Rady, Duchesse de Morny, Etienne Levet, Vicomtesse Folkestone, Pride of Reigate, Catherine Mermet, Marie Baumann, Hon. E. Gifford, Dr. Sewell, Marquise de Castellane, Jean Ducher, Comte Raimbaud. Mr. O. G. Orpen, West Bergholt, Colchester, was second, and the Rev. A. Foster-Melliar, Sproughton Rectory, third.

In the class for eighteen Teas the Rev. F. R. Burnside was first with Souvenir d'Elise, Mad. Cusin, Comtesse de Nadaillac, Princess of Wales, Catherine Mermet, Hon. Edith Gifford, The Bride, Marie Van Houtte, Souvenir de Paul Neyron, Caroline Kuster, Rubens, Niphotos, Souvenir de Thérèse Levet, Francisca Kruger, Souvenir d'un Ami, Mad. Bravy, Ethel Brownlow; the Rev. H. A. Berners was second, and Mr. O. G. Orpen third. In twelve trebles the Rev. H. A. Berners was first with Maréchal Niel, Anna Ollivier, Innocente Pirola, Mad. Bravy, Comtesse de Nadaillac, Mad. Hoste, Hon. Edith Gifford, Jean Ducher, Catherine Mermet, Princess of Wales, Francisca Kruger, The Bride. The Rev. F. R. Burnside was second, and Mr. O. G. Orpen third. In the class for twelve of one variety the Rev. A. Foster-Melliar was first with Anna Ollivier; Mr. J. Gurney Fowler was second, and the Rev. H. A. Berners third. In the class for twelve distinct Mr. J. Fowler was first, Mr. O. G. Orpen second, and the Rev. A. Foster-Melliar third. The silver medals of the National Rose Society were awarded to the Rev. H. A. Berners for Cleopatra as the best Tea in the amateur classes, a very grand bloom, and to Mr. O. G. Orpen for the best Hybrid Perpetual.

All the arrangements of the Show were carried out in an excellent manner, and great credit is due to the Rev. H. A. Berners for this, and that in despite of the adverse circumstances already alluded to, it was, to me, a great matter of regret that the storm of Tuesday had so ruined the garden of Mr. Berners that a visit to it, which had been arranged, had to be abandoned. Another matter of regret was that the Rev. F. Page-Roberts, so well known as a successful grower of Tea Roses, had suffered such severe losses in his plants during the last two winters that he was quite unable to put in an appearance; in person he was there, but his Roses were absent.

Amongst the other attractions of the Show was a beautiful bank of flowers of herbaceous plants, the finest being those exhibited by Mr. J. Burrell of Cambridge. The bright colours and varied hues of these flowers attracted general admiration; orange white and yellow Iceland Poppies, blue Delphiniums, white Campanulas, scarlet Lychnis, and a host of intermediate shades of colour combined to make a most attractive picture, and showed, at any rate, that East Anglia is not behind in the movement, made of late years, to encourage the growth of these plants.—D., Deal.

ELTHAM.

ONCE more in this charming spot, the very beau ideal of a place for a Rose show, and in the most delightful weather, there were gathered together not only a very good collection of Roses, but also greenhouse plants, table decorations, fruits and vegetables and cottagers' productions, many of which deserve more than a mere passing notice. I

have often noticed how delightful are the decorations exhibited here, and the present year fully maintained this character. They were light and artistic, and fully deserved the encomiums passed on them, although as usual there was a wide difference of opinion as to the correctness of the Judges' decisions, and I do not see how it is ever to be otherwise. It is simply a matter of taste; some like gracefulness and elegance, others massiveness. I do not think that anybody expected so good an exhibition, for the season had been a very eccentric one to say the least, and yet flowers of great brilliancy as well as of delicate shades were to be seen. One very noticeable fact was the progress that had been made by the local growers. I remember when it used to be said—first, and the rest nowhere; but now several of those who were amongst the latter have advanced to a position of great excellence, and many of the stands exhibited did great credit to the growers, and this is one of the best results of such exhibitions—they stimulate further exertions. A man has been content with what he has seen in his own garden, he thinks that they are quite as good as anyone could grow; he goes to an exhibition and comes back with a very different story. He sets to work, adds to his marks, reads books, consults his neighbours, and as a consequence takes a higher position. There are persons who very much



FIG. 3.—CATTLEYA IRICOLOR. (See page 4.)

dislike exhibitions. Their reasons are various; but the advantages and ultimate results I think far outweigh any supposed disadvantages.

I commence with the amateurs, to whom at Eltham is given the post of honour—a very desirable practice, for assuredly it is the amateur element which is most to be cherished. Professional growers can take care of themselves, and the National Rose Society has always held to the theory and practice, and has consequently made such a schedule for amateurs as has never before been attempted. Of course there is a reflex benefit on the professional side, for the more enthusiastic the amateur becomes the larger are the orders sent to the nurserymen.

In the class for eighteen distinct varieties Mr. Shea was first with Madame G. Luizet, Sultan of Zanzibar, Duke of Teck, Marie Finger, Innocente Pirola, Mrs. J. Laing, Prince Arthur, Countess of Oxford, Caroline Kuster, Ulrich Brunner, Magna Charta, Luciole, Pride of Waltham, Souvenir de S. A. Prince, Vicomtesse Folkestone, Duke of Edinburgh, and Suzanne Marie Rodocanachi. Mr. A. Harris was second, and Mr. R. Bloxham third. In the class for twelve varieties Mr. Arthur Bryans was first with Ulrich Brunner, Merveille de Lyon, Duke of Teck, Captain Christy, Baroness Rothschild, Souvenir de Thérèse Levet, Louis Van Houtte, Mrs. J. Laing, Countess of Oxford, Vicomtesse Folkestone, Duchess of Bedford, Marie Baumann. Mr. Shea was second, and Rev. J. N. Rowsell third. In four trebles Mr. Bloxham was first with Vicomtesse Folkestone, La France, Madame Gabriel Luizet, Eugène Verdier; and Mr. A. Harris third. In the class for six varieties Mr. A. Bryans was first with Baroness Rothschild, Countess of Oxford, Benoit Comte, Abel Carrière, A. K. Williams, Heinrich Schultheis. Mr. Summers second, and Mr. Massey third.

In the class for six Teas Mr. Rowsell was first with Etoile de Lyon, Jules Finger, Vicomtesse Folkestone, Jean Ducher, Ethel Brownlow, Madame Margottin; and Mr. A. Bryans second. In the class for six of one variety Mr. Shea was first with Marie Finger, Mr. Bloxham second with Vicomtesse Folkestone, and Mr. Bryans third.

In the classes for nurserymen Mr. Frank Cant was first in that for forty-eight varieties with Sultan of Zanzibar, Vicomtesse Folkestone, Dr. Sewell, Merveille de Lyon, Antoine Ducher, Lady Mary Fitzwilliam,

Ulrich Brunner, Madame de Watteville, Victor Hugo, Mons. H. Jamain, Duchess of Bedford, Madame Cusin, Dupuy Jamain, Niphetos, Prince Arthur, Baroness Rothschild, Auguste Piganeau, Grace Darling, Marguerite de St. Amand, Pride of Waltham, Auguste Rigotard, Madame G. Luizet, Madame T. Pereire, Mrs. J. Laing, François Michelin, Mrs. Paul, Duchess of Teck, Marie Finger, Marie Baumann, Souvenir d'Elise, Pride of Reigate, The Bride, Duke of Wellington, Jeannie Dickson, Victor Jacqueminot, Catherine Mermet, Exposition de Brie, La France, Comtesse de Ludre, Souvenir d'un Ami, Charles Lefebvre, Madame Dubois, Alfred Colomb, Innocente Pirola, Victor Verdier, A. K. Williams, Madame Willermoz. Messrs. Prior & Son were second, and Mr. Geo. Prince was third. In the class for twelve varieties Messrs. Prior & Sons were first with Eugène Verdier, Dr. Sewell, Lady Mary Fitzwilliam, Ulrich Brunner, Marie Baumann, Merveille de Lyon, Dupuy Jamain, Marie Van Houtte, Madame Gabriel Luizet, A. K. Williams, The Bride, Boieldieu; Mr. Frank Cant was second, and Mr. George Prince third.

In the class for twelve Teas Mr. George Prince was first with The Bride, Comtesse de Nadaillac, Hon. Edith Gifford, Catherine Mermet, Ernest Metz, Innocente Pirola, Maréchal Niel, Princess of Wales, Souvenir de S. A. Prince, Souvenir d'un Ami, Anna Ollivier, Madame Hoste; Mr. Frank Cant was second, and Messrs. Prior & Son third. In the class for twelve, six H.P. and six Teas, the first prize was awarded to a stand containing Caroline Kuster, Souvenir d'un Ami, Madame Cusin, Anna Ollivier, Marie Van Houtte, Jean Ducher, Lady Mary Fitzwilliam, Prince Arthur, Alphonse Soupert, Madame Gabriel Luizet, Captain Christy, Ferdinand de Lesseps, but of which I omitted to take the name of the exhibitor. The second was awarded to Mr. R. Bloxham. In the class for twelve Teas (amateurs) the Rev. F. R. Burnside took first prize with Souvenir d'Elise, Princess of Wales, Innocente Pirola, Marie Finger, Souvenir d'un Ami, Comtesse de Nadaillac, Catherine Mermet, Souvenir de Paul Neyron, Rubens, Ethel Brownlow, The Bride, and Caroline Kuster. This stand contained some remarkably fine blooms, and it was a noteworthy fact, as showing the staying power of Teas, that they had all been exhibited the day before at Ipswich. Mr. R. Bloxham was second in this class. The National Rose Society's medal for the best Hybrid Perpetual was given to a bloom of Etienne Levet (?) in Mr. Shea's box, that for the best Tea to a small, but pretty, bloom of Jean Ducher in Mr. Rowsell's box.—D., Deal.

CANTERBURY.—JUNE 30TH.

THE rosarian would be difficult to please indeed who did not find pleasure in a visit to Canterbury. The town has features of interest that many of much greater size do not possess. The Show is an excellent one, and those connected with it are found to be as courteous and pleasant as they are well versed in Rose matters. Prominent amongst them, and best known perhaps to rosarians in general, is the Rev. H. B. Biron, who, as one of the Secretaries, does much to guide the course of the Society. He is an able grower, and takes a deep interest in the flowers, as might be gathered from his recent letters on faded Roses in the Journal. Into the merits of the discussion on this subject it is not now necessary to enter; it is more to the point to consider those of the Show which he directs. Considering the season, it was a highly satisfactory one, the entries being much more numerous than might have been expected. The flowers, too, were excellent. Mr. Wachter, Colonel Pitt, and Mr. Biron all showed good blooms, and some admirable flowers also came from Mr. J. Stonley. This exhibitor would not be defeated without a struggle at some of the leading shows.

There were four stands of eighteen blooms, and amongst them were some excellent flowers. Mr. Cooper Wachter of Hoath was first with an admirable stand, consisting of Etienne Levet, Marie Finger, Etoile de Lyon, Mrs. John Laing, Dupuy Jamain, Mdme. Gabriel Luizet, Général Jacqueminot, Ulrich Brunner, Catherine Mermet, Le Havre (very fine), Hon. Edith Gifford, Dr. Andry, Marie Baumann, Innocente Pirola, A. K. Williams, Maréchal Niel, Marie Rady, and Madame Cusin. These were a large, fresh, and well-coloured collection, one Tea only being a little tarnished. Mr. R. L. Knight was second, and although a good many points in the rear he had a creditable stand. He had a charming bloom of Mdme. Gabriel Luizet. Colonel Pitt was third, his stand being good but lacking diversity. There were six stands of twelve, and a delightful one from the Rev. H. B. Biron was placed first. None of the flowers was large, but all were in admirable condition. A splendid bloom of Innocente Pirola was the best flower in the stand, while Marie Finger and Dupuy Jamain were very good. The second prize went to Mr. H. Foster for a very bright and fresh collection, Captain Christy being third. His flowers were large, but some a little faded.

Teas and Noisettes were neat and fresh, if not large. Colonel Pitt had a beautiful stand, only lacking size. The varieties were Caroline Kuster, The Bride, Anna Ollivier, Madame de Watteville, Cleopatra, Catherine Mermet, Madame Cusin, Hon. Edith Gifford, Souvenir d'Elise, Mdme. Bravy, Maréchal Niel, and Marie Van Houtte. Mr. R. L. Knight was second with a stand of medium quality, and the Rev. J. R. Buchanan third. The Rev. H. B. Biron had the best six trebles, staging Duke of Edinburgh, Madame de Watteville, Dr. Andry, Marquise de Castellane, Chas. Lefebvre, and Marie Cointet. The latter was undersized, and Charles Lefebvre rather tarnished, but the others were good. Mr. Knight was a close second, though his flowers were somewhat small, and Colonel Pitt third. There were two other stands. Six competed with twelve blooms, and the best stand was that of Mr. J. Stonley, Harbledown, who staged some excellent flowers. His Merveille de Lyon, Mrs. John Laing, Marie Baumann, and Alfred Colomb were very good indeed; taking all

points into consideration, this was one of the best stands in the Show. Mr. F. Honeyball was second with smaller, but very fresh, well coloured flowers, Mr. S. H. Dean and Captain Lambert being placed equal third. The latter had very good blooms of Cleopatra, and Madame Gabriel Luizet, but his stand was marred by one or two very small flowers. Mr. J. Stonley won somewhat easily with nine Teas, his Cleopatra, Innocente Pirola, Devoniensis, and Madame Cusin being capital examples. Captain Lambert was second, he also having an admirable Cleopatra, and Mr. G. Collard was third. Mr. Stonley, who is evidently a good grower, had the best four trebles, a very good trio of Le Havre being his best flowers. Mr. S. H. Dean was second, and Captain Lambert third. Sixes in single trusses were not so good. Mr. E. V. Dean was first, Mr. W. W. Mason second, and Mrs. Scudamore third. In another class for six the prizes went to the Rev. Canon Holland, Mr. W. Rigden, and Mr. F. Honeyball in the order given. Canon Holland had the best three varieties, Dupuy Jamain, Eugène Fürst, and Marie Van Houtte representing him. Mr. S. A. Smith was second, and Mr. W. Rigden third. The Canon again won with three Teas, his varieties being Souvenir d'un Ami, Madame Cusin, and Jean Ducher. Mr. W. Rigden was second, and Mr. A. Nash third.

Colonel Pitt received the first prize for six blooms of any H.P., staging a good but not perfect half dozen of Duke of Edinburgh. Capt. Lambert was second with Madame Gabriel Luizet; and Mr. H. Foster third with the same variety. In the corresponding class for Teas Mr. S. H. Dean was first with Innocente Pirola, although he almost transgressed the conditions by staging an expanding bud with one of his trio. Mr. Wachter was second with Maréchal Niel, and Colonel Pitt third with The Bride. There were several other stands in competition.

In the class for thirty-six varieties, any kinds, open, Mr. G. Mount had matters all his own way, and he certainly had a good stand, his Dupuy Jamain, Baroness Rothschild, Marie Baumann, and Etienne Levet being very good indeed. It was the same in the class for twelve trebles. Marie Baumann was splendid, Louis Van Houtte and A. K. Williams were also good. A trio of Niphetos looked too clean and pure to have been cut from out of doors.

Considerable difficulty was experienced in awarding the prize for the best Tea, and eventually Mr. Biron's Innocente Pirola in his first prize stand of twelve, and Mr. Stonley's Cleopatra in his first prize stand of nine Teas, were placed equal first. Both were beautiful blooms, and it was difficult to choose between them, but another day or two would have improved Cleopatra, and probably given it the victory. Mr. H. Foster had the best H.P., a perfect specimen of Dupuy Jamain, but it was run very close by a beautiful bloom of A. K. Williams in the Rev. J. R. Buchanan's stand.

WINCHESTER.—JUNE 30TH.

THE annual Rose Show of the Horticultural Society of this ancient city was held as usual in the Guildhall, and was in every way a success. Perhaps the entries were not so numerous as in some previous seasons owing to the unfavourable weather experienced during March, but what was lacking in quantity was fully made up in quality, which was of a uniform character throughout. The arrangements were, as usual, all that could be desired, and reflected much credit on the Hon. Secretary, Mr. Chaloner Shenton, and the Chairman of Committee, Mr. Flight.

The principal class was that for forty-eight distinct varieties, in which Mr. B. R. Cant was the only exhibitor. He staged medium-sized, full, and fresh examples of such uniform excellence that we give the whole list of varieties. Lady Mary Fitzwilliam, Dupuy Jamain, Souvenir d'Elise, Mons. Trevo, Marie Finger, Marie Baumann, Marchioness of Dufferin, Mdme. Isaac Pereire, Innocente Pirola, Duke of Edinburgh, Mdme. Gabriel Luizet, Alfred Dumesnil, Merveille de Lyon, Gustave Piganeau, Mrs. Paul, Ulrich Brunner, Heinrich Schultheis, Princess of Wales, Ella Gordon, Pride of Waltham, Dr. Sewell, Vicomtesse Folkestone, Mdme. Prosper Laugier, Violet Bouyer, Alfred Colomb, Mdme. Scipion Cochet, Mdme. C. Joigneaux, Maréchal Niel, Charles Lefebvre, Duchess of Albany, Ferdinand de Lesseps, Margaret Dickson, Baroness Rothschild, John Hopper, Comtesse de Nadaillac, Thomas Mills, Caroline Kuster, A. K. Williams, Mdme. Cusin, Sénateur Vaisse, Cleopatra, Marie Verdier, Mdme. Willermoz, Général Jacqueminot, Catherine Mermet, Suzanne Marie Rodocanachi, The Bride, and Comtesse d'Oxford. Mr. B. Cant was also awarded first prize in the class for twenty-four distinct trebles. Mdme. Gabriel Luizet, Gustave Piganeau, Jeannie Dickson, Mrs. Paul, The Bride, Dr. Sewell, Etienne Levet, Mrs. J. Laing, and Mdme. Marie Finger formed a beautiful and even stand. For twelve trebles, distinct, there was a brisk competition. Dr. Budd, Brooklyn Road, Larkhall, Bath, was first with a charming collection, not large blooms, but of excellent quality; Messrs. Keynes, Williams & Co., The Nurseries, Salisbury, second. For twenty-four distinct Dr. Budd repeated his previous success with high-class blooms. Camille Bernardin, Mdme. Gabriel Luizet, A. K. Williams, Gustave Piganeau, Duchesse de Morny, and Mdme. Gabriel Luizet were the most conspicuous examples. Messrs. Keynes & Co. were again second. Mr. R. E. West, Reigate, third. For twelve blooms any one variety Hybrid Perpetual, dark, Mr. B. Cant followed up his previous success by winning first honours with Gustave Piganeau in good condition. For twelve blooms of any light variety Hybrid Perpetual Mr. Cant was successful with perfect examples of Madame Gabriel Luizet; Dr. Budd followed with La France. Messrs. Cant and Keynes secured the prizes in the order named for twelve blooms of any Tea or Noisette with Innocente Pirola and Niphetos in good condition.

The following classes were not open to nurserymen. For twenty-four, distinct, single trusses, there were seven competitors, all staging creditably. Mr. Neville, gardener to F. W. Flight, Esq., Cornstiles, Twyford, was an easy first with medium-sized fresh examples of leading varieties; the Rev. W. Romaine, The Priory, Old Windsor, second; Dr. Budd third. Dr. Budd turned the tables in the class for twelve distinct trebles with a charming collection; Mr. Neville second; Mr. T. Hall, gardener to S. Montague, Esq., South Stoneham, third. For twelve Teas or Noisettes, distinct, single trusses, Mr. Neville was first, Dr. Budd second, Mr. Romaine third. For twelve, distinct, single trusses, Dr. Seaton, Rutland Lodge, Bittern, won easily, and in the amateurs' class for twelve blooms, not less than six varieties, Mr. Henry Owen, Church Lane, Basingstoke, was the most successful; Mr. Walter Wadmore, Basingstoke, second.

The classes open to ladies only produced a brisk competition and most meritorious exhibits. For the best dressed stand of flowers, Miss Ladhams, Shirley, won with a charming arrangement; Miss A. Flight second with a superb stand; Miss Nelly Owen, Basingstoke, third; Miss N. Pinnick fourth. In the class confined to wild flowers only, Miss Flight secured an easy victory with an elegant arrangement amongst six other competitors, Miss Nelly Owen second, Miss Ladhams third.

Several meritorious groups of plants were arranged around the sides of the hall. In the principal class, Mr. Thos. Lowns, gardener to F. C. Birch, Esq., Clovelly, was first, and Mr. Astridge in the other class. Groups not for competition were arranged by Mr. E. Molyneux, gardener to W. H. Myers, Esq., Swanmore Park, Bishop's Waltham (who also had a most meritorious exhibit of hardy flowers), Messrs. E. Hillier and Jeffrey, nurserymen, Winchester, which assisted considerably in the embellishment of the hall. Mr. Ladhams, florist, Shirley, staged an excellent collection of hardy cut flowers. The Exhibition was bright, fresh, and diversified, and much enjoyed by the visitors.

SUTTON.—JULY 5TH.

THE eleventh annual Exhibition of the Sutton Amateur Rose Society was held in the Public Hall, Sutton, on Tuesday, July 5th. Compared with other Rose Shows of the week that under notice was somewhat small, but the blooms were nevertheless exceptionally fine, and the Exhibition was of a diversified and bright character.

In the open class for thirty-six distinct, single trusses, there were but three entries, and the first prize was awarded to Messrs. D. Prior & Sons, Colchester. The blooms in this stand were fresh and bright, the best being Mrs. John Laing, A. K. Williams, Ulrich Brunner, Etienne Levet, Horace Vernet, and Madame Lambard. Mr. W. Taylor, Hampton, was second with small and neat blooms, and Mr. W. Rumsey, Joyning's Nursery, Waltham Cross, third. Messrs. Prior & Sons also secured the first prize for twelve Teas or Noisettes, showing a stand of beautiful blooms, amongst which Marie Van Houtte, Francisca Kruger, and The Bride were most conspicuous. Mr. W. Rumsey was second, and Mr. Taylor third in this class.

The principal amateurs' class was for twenty-four distinct, single trusses, and in this there were four competitors. The competition was somewhat keen, the first prize, however, being awarded to Mr. A. Slaughter, who staged a stand of fresh even blooms. Amongst these Madame Gabriel Luizet, A. K. Williams, Captain Christy, Charles Lefebvre, Victor Hugo, and Prince Arthur were the most conspicuous. Mr. R. E. West was a good second, and Mr. E. M. Bethune third. In both cases the blooms were even and fresh. For eight distinct trebles, Mr. J. G. Fowler was first, and Mr. E. M. Bethune second, the third prize going to Mr. R. E. West.

The best dozen single trusses of Teas or Noisettes were staged by Mr. E. M. Bethune, the blooms being fresh and perfect in form. Catherine Mermet, Madame Cusin, and Ethel Brownlow were very fine in this stand. Mr. A. Slaughter was second with a stand of neat blooms. Mr. Ernest Wilkins showed the best twelve single trusses, any variety, and also secured leading honours for six distinct trebles and nine Teas or Noisettes. For six distinct, single trusses, Mr. M. Hodgson, Shirley Cottage (gardener, Mr. H. Shoesmith), was placed first, showing neat blooms of *Séateur Vaisse*, Dupuy Jamain, Maurice Bernardin, Ulrich Brunner, Charles Lefebvre, and Duke of Edinburgh. The second prize was won by Mr. J. De la Mare, and the third by Mr. C. J. Grahame. The best nine distinct singles were shown by Mr. F. O. Devereux, amongst these being a splendid bloom of Ulrich Brunner. Mr. M. Hodgson was a close second with a stand of delightfully fresh blooms, and Mr. J. De la Mare secured the third prize. For four distinct trebles Mr. F. O. Devereux was first with neat blooms of Hon. Edith Gifford, The Bride, Mrs. J. Laing, and Germaine Caillot. Mr. J. De la Mare was awarded the second prize, there being no other competitors in this class. Mr. F. O. Devereux was also first for six Teas, Mr. C. J. Grahame and Mr. J. De la Mare being second and third.

Mr. Ernest Wilkins had the best twelve distinct, single trusses, in the class provided for local exhibitors, the blooms in this stand being very fresh. Mr. W. Hooper was adjudged the second award, the third falling to Mr. W. F. Hughes. Mr. E. M. Bethune showed the best twelve blooms of any Rose, the variety being *The Bride*, and Mr. F. G. Fowler was second with Mrs. J. Laing. Mr. W. F. Hughes was first in the class open to growers of less than 500 plants, with nine distinct, single trusses, showing grand blooms. Mr. H. G. Malholm was second, and Mr. W. R. Miller third. The last-named exhibitor was placed first, however, for six distinct single trusses, the best blooms in this stand being *Souvenir d'Elise* and *Camille Bernardin*. The second prize went to Mr. W. F. Hughes, and the third to Mr. A. S. Heiron. There were eight competitors in this class. For six single trusses of any

Rose Mr. A. S. Heiron was placed first, showing beautiful samples of *Her Majesty*. Mr. F. G. Detmar secured the second prize with six well-grown blooms of *Charles Lefebvre*, and the third went to Mr. W. F. Hughes. Miss Atkins was awarded first honours for three Hybrid Perpetuals, and Mr. W. F. Hughes was allotted second position, the third prize falling to Mr. H. Chadburn. The latter, though, obtained the first prize for three Teas, Mr. T. C. Crump and Miss Atkins being second and third respectively.

The dinner table and other decorations were effective, although the entries were not numerous. Miss Mabel Morton secured the first prize for a table decorated with Roses, the other prizewinners being Mrs. A. Bawtree, Mrs. Ernest Wilkins, and Mrs. Malholm. Baskets and bouquets of Roses were also admirably shown by Miss Bacon, Mrs. A. S. Heiron, Miss Mary Fisher, Miss Grace Chadburn, Miss Sybil Hughes, Mrs. F. G. Detmar, and other ladies.

Mr. R. W. Miller secured the medal for the best bloom in the Show with a splendid example of *Comtesse de Nadaillac*.

CROYDON.—JULY 6TH.

ALTHOUGH Croydon Show is not by any means confined to Roses they are always largely represented, and on the present occasion occupied about 300 feet of tabling. The blooms, too, were very good in quality, taken collectively, as might have been expected from the names of the exhibitors. It is true several prominent amateurs, such as Mr. E. B. Lindsell, the Rev. J. H. Pemberton, and Mr. Budd were not competing, but Mr. Brown, Mr. C. J. Salter, Mr. Mawley, Mr. C. J. Grahame, and other good growers were, while the professional contingent was very strong, including Mr. Frank Cant, Mr. B. R. Cant, Messrs. Prior & Son, and other leading exhibitors. The presence of the two great Colchester growers was a guarantee of itself of some beautiful blooms being staged, and those who visited the Show must have been gratified to observe the splendid quality of their flowers. Every day since the beginning of the month seems to have improved them, and at Croydon there was not only symmetry, colour, and finish, but greater weight than was observable at the earlier shows.

Some very beautiful blooms were shown by Mr. Frank Cant in the class for forty-eight, and he won easily. They were not only large, but very fresh, rich in colour, and well finished, comprising one of the best forty-eights the young Colchester exhibitor has staged. Mr. B. R. Cant was second with fresh bright blooms, and Messrs. D. Prior & Son third. Mr. B. R. Cant was victorious with twenty-four trebles after a good contest. Save for one or two varieties being past their best this was in every way an admirable stand. Mr. Frank Cant followed a few points in the rear, and Messrs. Prior & Son were a close third. The first prize stand of twenty-four was exhibited by Mr. W. Taylor of Hampton, the flowers being undersized, but otherwise good; Messrs. G. Rumsey, Wrotham, and T. Butcher being second and third. Messrs. Prior & Son scored their first win with eighteen Teas and Noisettes—a very fine stand, Messrs. Frank Cant and B. R. Cant following. Messrs. Prior had the best dozen of one variety, winning with an excellent stand of *Horace Vernet*. Mr. B. R. Cant was first with *Gustave Piganeau*, and Mr. Frank Cant third with *Marie Baumann*. Messrs. Prior also won with twelve of any Tea, having a delightful box of *Marie Van Houtte*. Mr. B. R. Cant was third with *Mad. de Watteville*.

Mr. J. Brown, gardener to Mrs. Waterlow, had the best stand of thirty-six in the amateurs' section, and his flowers were in very good condition. Mr. C. J. Salter, gardener to T. B. Haywood, Esq., was second with somewhat smaller flowers, but fresh and well coloured, and A. Tate, Esq., third. These stands were all very close in point of merit. E. M. Bethune, Esq., won with twenty-four. There was not much to choose between his and Mr. P. G. C. Burnand's stand, but a little superiority in weight gained Mr. Bethune the award. Both had well coloured and excellently finished flowers. Mr. W. Blundell was third. The best eight trebles by far were those of Mr. Brown, who had heavy, well-balanced flowers. Mr. W. Blundell was second, and Mr. Salter third. Dr. Tucker won with twelve of one variety, showing *Her Majesty*, Mr. Brown second with the same variety, and Mr. Salter third with *Madame G. Luizet*. Mr. Bethune won with eighteen Teas, the flowers somewhat small, but fresh. A. Slaughter, Esq., was second. J. Parker, Esq., won with six of one variety, Messrs. Bethune and C. J. Grahame following. Mr. J. Brown won with twelve, a capital stand. In other classes the prizes went to Messrs. Wilkins, Mawley, Grahame, Parker, Bateman, Shoesmith, J. de la Mare, Dart, Wright, Stew, and Hasler. Messrs. Mawley, Grahame, and Shoesmith in particular had some beautiful blooms, and several first prizes fell to their share.

The floral decorations were numerous, and the influence of Mr. Wilks' floral work appears to have a strong hold on the local ladies, for Shirley Poppies were lavishly employed. The classes for general plants brought out some excellent exhibits. Greenhouse flowering plants were very fine, particularly Tuberous Begonias, which were admirable, the strains being good and the plants well grown. Ferns and Selaginellas were a good and extensive display, but unfortunately space cannot be found for details of the awards. The miscellaneous exhibits were equally noteworthy.

The Society was more fortunate in respect to weather than it has been on several previous occasions, for though somewhat lowering at times the weather remained bright, warm, and sunny during the greater part of the day. If the same conditions prevailed in the evening the exchequer would, no doubt, benefit, for the Show is very popular in the district, a sixpenny gate in the evening bringing in many hundreds of visitors. An efficient band of workers was headed by Mr. Roffey, who as Secretary is essentially the right man in the right place.



HARDY FRUIT GARDEN.

Raspberries.—The increase of a large number of suckers round the old stools is most detrimental to the well-being of the plants. In most cases more suckers are annually produced than can possibly be required, many growing thickly together in masses near the base of the fruiting canes, others at some distance away. The best of those situated close to the main stools or rows of plants select for preservation, choosing those that are strong. Draw out all weaker growths, as, being not only useless but shading and robbing the others of nutriment, they prove injurious to the future welfare of the permanent plants. Four to six are the most that need be retained round each stake, but where Raspberries are grown in rows the suckers required to produce the future bearing canes must be secured at the most convenient places for readily tying at the proper time to the trellis or wires. In addition to removing superfluous suckers root out all coarse weeds which may have established themselves. The mulching of manure applied in spring is often the means of introducing the seeds of undesirable weeds. If so, and they have now become apparent, hoe them down at once, preferably on a hot sunny morning, when they will soon wither. The ground being clear of weeds, and probably little left of former mulchings of manure except strawy material, it is advisable to apply another coating of rich manure, as the active enlargement of the fruit, the expansion of the foliage, and thickening of the young stems, results in great demands on the soil resources both in nutriment and moisture. In light soils the demands of the plants may not be thoroughly met without recourse to watering, but if water be applied it must be given liberally, and previous to a heavy mulching, to retain moisture by preventing evaporation.

Gathering Strawberries.—Under the influence of favourable weather Strawberries ripen quickly, and when due provision has been made to preserve the fruit from the attacks of slugs, grubs, and birds the work of daily picking the ripest fruit is a pleasant task. It is much better to do this, securing all the forwardest fruits, than to leave the whole until a plethora of ripe and too ripe fruit demands instant attention. Not only do Strawberries ripen quickly, but they spoil quickly after the ripening point is reached. In moist weather the tendency to decay often shows itself before the fruits are fully coloured, because, the pulp being so soft and absorbent of moisture, the outer tissues of the fruits are soon injured. This is more apparent on thickly growing beds of Strawberries than on those more rationally managed. Old plants, too, not being so vigorous and lacking adequate nutrition, are very liable to suffer from untoward influences if not carefully managed at fruiting time. The best time of the day for gathering ripe Strawberries is undoubtedly early morning when the dew has evaporated. To have the best examples in the finest condition each fruit should be carefully detached with a portion of stalk. For immediate use or where appearances are not considered a more rough and ready style of gathering can be adopted. Strawberries required for preserving must be gathered in a dry condition. It is not desirable to have large quantities of fruit in bulk for a longer time than necessary, as fermentation soon sets in, decomposition following to the utter ruin of the fruit. By spreading the fruits out thinly, keeping them dry and cool, they remain fresh and perfect much longer. Those gathered wet or over-ripe suffer sooner than examples collected in the best possible condition.

Propagating Strawberries.—Frequent attention to the selection and expeditious rooting of the best plantlets on strong runners is necessary just now. For the earliest crops and for forcing purposes plants secured early by rooting runners in small pots are the best, as no check is received when transferred to the permanent beds or fruiting pots. Three-inch pots filled with rich soil are plunged in the ground near strong runners having plantlets with rootlets just visible; these are fastened to the surface with a wooden or wire peg, or even a stone. The latter is not objectionable because it affords a little shade to the soil in hot weather. When required only for planting in the open ground squares or cubes of turf of a handy size thoroughly well soaked before using with water or liquid manure, prove very useful for rooting plants with little trouble save that of keeping the turf moist. Thick, bulky squares of cocoa-nut matting have been used in a similar manner with good results. A little small flaky manure scattered in among the fibres of the matting would induce the roots to spread. Stop all the runners beyond the rooting medium, one plantlet only to each wire being retained when intended for pot culture or very early planting. Only those rooted in pots should be used for pot cultivation. Hundreds of good, well-rooted plants can be secured without resorting to these forwarding aids by simply leaving the runners alone to root of their own accord, thinning out the weakest early. These cannot be depended upon to fruit freely the first year. Moderately stiff retentive soils usually produce good plants in this manner. They can be dug up with abundant roots and soil adhering for planting at once. A careful weeding out of the weakest runners and those not wanted contributes to the success of those retained whatever method of propagation is followed.

Currants and Gooseberries.—If not already done, shorten back to two or three pairs of leaves the current growths on the main branches of Red and White Currants. This will admit light and air to the ripening fruit, and swell up the buds at the base for fruit-producing another year. Gooseberries can be treated in the same way, and should be attended to at once if this system is followed, though judicious thinning out, retaining a fair quantity of young wood without shortening is a profitable method of management, and produces good crops. Retain a sufficient number of strong growths or suckers in Black Currants, leaving them at full length for future bearing. Weak or useless wood, or any older branches not fruiting, or which have fruited, cut out now to make room for younger growth.

FRUIT FORCING.

Pines.—*Starting Suckers.*—The early section of summer fruiting plants have fruited rather later than usual, but they have suckers which will soon be fit to be taken, and to receive these the necessary provision must be made at once, so that they may have the benefit of the sun's warmth in developing growth for as long a time as possible. A fermenting bed in a low damp house or pit should be provided, and its heat steady at 90° at 6 inches from the surface, but 95° may be allowed at the start, and that must not be exceeded. Take the suckers from the parent plants carefully, trim the base smooth, and place directly into 5 to 7-inch pots, according to the size of the suckers, and water once in order to settle the soil about them. Good fibrous loam torn up by hand without any admixture is the most suitable compost; embed it firmly in the pot, so that a sturdy growth will be induced in the plants. Keep the suckers rather close and shaded for a week or ten days, sprinkling through a fine-rose syringe once or twice a day according to external influences. When growth takes place more ventilation with less shade is desirable, but this must be proceeded with gradually until the growth is well decided and inured to the sun, then accord them ordinary treatment.

Placing in Fruiting Pots.—When the suckers are well rooted they should be transferred to the largest pots before the roots become matted together. Queens and Black Jamaica should be given 10-inch pots, other sorts 11 or 12-inch, using fibrous loam, but more lumpy than for suckers, adding a sprinkling of steamed bone meal; and to prevent worms entering the pots a handful of soot or wood ashes from small twigs may be sprinkled over the drainage. Pot firmly, and accelerate growth as far as is consistent with a sturdy habit.

Cucumbers.—A few seeds may now be sown for late summer and early autumn produce. The plants from this sowing will afford much finer fruit in late summer than plants that have been bearing for a considerable time, as old plants generally produce knobbed (seeded) fruits towards the end of the season, and are neither so handsome nor useful as straight seedless fruits. The plants will be fit to plant out in a month, and succeed admirably in frames with a gentle bottom heat, such as may be afforded by the least reduced materials from spent hotbeds, mixed with a little rather fresh, but not raw, stable litter. It is desirable to have the bed 18 inches to 2 feet high, so that linings can be given in late summer and early autumn so as to have fruit up to a late period.

Plants in Full Bearing.—These must have attention in thinning exhausted growths, removing bad leaves, stopping, tying, and regulating, so as to keep up a succession of bearing wood. Add a little fresh soil to the surface of the bed from time to time, and a light mulching of sweetened horse or cow manure, the latter dried and broken up. If the plants grow weakly, sprinkle a little superphosphate on the surface and wash in. Syringe at closing time, and maintain a good moisture all day by damping the floors and other surfaces in the morning, noon, and early in the evening. Avoid too much moisture in dull weather, as it makes the growths soft and the foliage more susceptible of injury on a bright period ensuing. After a few days of dull, moist weather it is desirable to shade, and keep the house rather close on the return of bright days. Supply liquid manure copiously once or twice a week, but it will not benefit plants poorly furnished with roots and sparse foliage. What such need is fresh soil or surface dressings of lumpy material. Close early, say at 85°, and so as to gain 5° to 10°, and only employ fire-heat to prevent the temperature falling below 60° at night. The plants, especially young, must not be overcropped, and the fruit should be cut as soon as ready for use, as if allowed to remain they exhaust the plants, and prevent, in a great measure, a good and continuous supply; but that is greatly influenced by maintaining a succession of young growths.

Melons.—*Late Plants.*—It is important that the late plants be placed out at once, especially where the means of affording artificial heat is confined to fermenting materials. Whether grown in pits or frames a sufficiency of fermenting materials should be used to raise a bottom heat of about 90° to start the plants quickly.

In Houses.—When the crops are cleared, the plants if exhausted, should be removed, and preparations made for a fresh start at the earliest opportunity, but if the plants are in good health it is sheer folly to root them out, as they will come into bearing again much sooner than young plants, and are in every way more tractable; indeed, if the plants are not overcropped, do not suffer from insufficient water at the roots, and the foliage is kept healthful, they will continue bearing as late as is desired. When the crop is cut the plants should be divested of most of the old or damaged leaves, fresh growths being encouraged in the place of any exhausted, which should be cut away. Loosen the surface of the bed, remove some of the soil, apply a couple of inches

of fresh loam, and give a good watering. When growth is taking place afford an application of liquid manure, and then treat as for former crops. When Melons are grown upon the continuous system it is well to note that the laterals will grow somewhat freely and show fruit abundantly after a few joints of growth. The flowers after being impregnated will set and the fruit swell freely, so that sufficient moisture only need be accorded to maintain the plants in continuous bearing. Attend to stopping, thinning, tying, or otherwise regulating the growth, not allowing pressure of work in other departments to interfere with this, or the results will be so detrimental as to be difficult to remedy.

THE FLOWER GARDEN.

Carnations and Picotees.—A considerable number of old plants were killed during the past winter, but only a comparatively few young ones were lost, seedlings proving the most hardy. All in good health have pushed up abundance of strong flower stems, and these ought not to be allowed to fall about the beds. Neat Hazel stakes are the least conspicuous, and not more than two or three stems should be tied to one of these. Well kept and moderately long Apple prunings answer well, while if deal stakes are used they ought first to be painted green. The least that can be done with strong plants is to support the flower stems with either Hazel or Birch spray, such as Kidney Beans in pots are usually staked. If extra fine blooms are desired thin out the buds freely, leaving only the prominent central ones; but for ordinary purposes no thinning is necessary, buds cut with the flowers improving the appearance of the latter rather than otherwise. If not already done lightly stir the surface of the soil and mulch with leaf soil or some other material that will serve to enclose moisture, and yet not present an unsightly appearance. It pays well to erect a light framework for supporting blinds over the beds, these protecting the flowers from heavy rains and fierce sunshine.

Forming Fresh Beds.—Supposing a good number of seedlings have been raised, and these duly potted singly or pricked out in boxes, all ought soon to be quite strong enough for planting out. If they have lately been kept in cold frames little or no hardening will be necessary, and if put out early grand flowering plants will be had for next season. They succeed very well in mixed borders, but are much the most effective and serviceable when grown in slightly raised beds, gently sloping to the south or south-west. These beds may well be about 6 feet wide, having 1 foot alleys between them, each bed holding five rows of plants disposed 12 inches apart in the row. That will be none too much space. A very rich root run is not desirable, but some fresh loam, horse droppings, and grit, such as may be collected on highways, may well be mixed with the ordinary garden soil. See that the plants are in a moist state at the roots prior to turning them out of pots and preserve the balls intact, surrounding these with some of the finest soil and making it firm. Give a gentle watering occasionally, and any put out from boxes with only a little soil about the roots should be lightly shaded from fierce sunshine, this being done with the aid of a few tree branches.

Propagating Carnations and Pinks.—The last-named will soon be past their best, on the whole they have flowered remarkably well. Much the finest flowers are produced by young plants, and the beds continue to improve as far as floriferousness is concerned for about four years. A new bed or beds ought to be formed every season, and in course of time this admits of the worn out older ones being destroyed. This season it ought to be possible for seed to be sown in quantity, at any rate in the sunny south, and it may either be sown directly it is ripe or kept till next spring. In the former case the seedlings should be kept in frames till the following spring, and the strongest of them may flower the same season. Seedlings are more vigorous than plants raised from cuttings, but the latter are most generally grown. Now is the best time for taking the cuttings or pipings, and these root the most quickly and surely over a very gentle hotbed formed on the north side of a garden wall. They will also strike readily in some districts under hand-lights in a similar position, and without the aid of fire heat. Failing these coverings they may be struck in the open. If frames are used three parts fill them with partly exhausted heating material, nothing being better than stable manure and leaves that have previously done duty. Surface them with about 4 inches of fine loamy compost in which road grit or, failing this, sharp sand has been freely mixed. The same sort of mixture should be placed either in handlights or boxes. The cuttings should be slipped off, the old plants slightly trimmed, cleared of dead leaves, and at once dibbled out 3 inches apart each way. See that they touch the bottom of the holes made with the dibber, and are well fixed. Give a gentle watering, keep the frames or handlights close, and shade from fierce sunshine. Thus treated, and kept from becoming dry, rooting will soon take place, and the plants will be ready for the open borders in September at the latest, or the stock can be wintered where struck. Carnations and Picotees may be raised in a similar manner, the small side shoots being chosen for the purpose of being made into cuttings, and the stronger growths layered in August.

Dahlias.—To have these at their best they must be liberally treated at the roots, and well attended to in the way of staking and training. The best results attend the practice of putting out spring-struck plants in preference to old roots, giving them a spit of manure and some fresh loam to start in, and confining the plants to a single stem. A strong stake should be placed to each, and the plants kept secured to these with stout raffia or small tar twine. For all ordinary purposes this will be all that is needed, the plants being allowed to branch strongly and

to flower at will, but if show blooms are required a different system must be adopted. Reduce the side growths to about four in number, selecting those rather low down, and place a stake to each. These reserved shoots must be kept carefully fastened to the stakes and not be allowed to branch very freely, a considerable number of buds in some cases being also removed. The plants will require to be liberally fed at the roots, especially if the season is at all dry and hot. Earwigs are the great bugbear of Dahlia growers, and are on the plants already. They eat first the leaves and then the petals of the flowers, and must be got rid of by trapping. The time-honoured plan of placing short lengths of hollow Bean stalks near the top of the stems is one of the best that can be tried, the earwigs collecting in these, and should then be blown out and destroyed. They may also be caught wholesale in small flower pots filled with dry moss, and inverted over the stakes.

THE BEE-KEEPER.

PUNIC BEES—MORE LIGHT WANTED.

On the 30th of June the editors of another journal say they failed to find any Punic bees in Tunis, and in the same article speak of being on the "very spot" in Tunis from whence fifty stocks were purchased from the Arabs, and the queens sent to Mr. Hewitt, exactly as stated by "A. H. B. K." on August 20th last. Can you explain, Mr. Editor, what they mean?

On June 16th they questioned the truth of there being a stock of pure Punic bees in the country. Now it is an "imported one," and they say "they have yet to see such a stock in this country or to hear of any of their correspondents having one." Do they not give themselves away? It clearly shows one of two alternatives—viz., either that your correspondents have more enterprise in them than others, or else there is an endeavour to keep the public in ignorance that such bees are to be had.

I have seen somewhere about forty hives of bees in one apiary, every one of which was headed by a pure Punic queen, and in which pure Punic bees were working, and so well do I like them that I intend very shortly to have the whole of my apiary either pure Punic or Punic crossed. See my letter in *Journal of Horticulture*, January 7th, page 11. A friend of mine who has every facility for inspecting my bees says that he is so well satisfied of the superiority of the Punic over the common bees that as soon as he can effect the change he shall not keep a common bee in his garden. These same editors gave us to understand on August 27th last that we could get these queens imported for 10 francs each, equal to 8s. Now they tell us "the supply is stopped, and none will be sent in future." Nor does it appear that they have brought a queen home with them, except, perhaps, a dead one. So far my Punic are far in advance of the others this season, and I am glad to say I can obtain all the Punic queens I want alive and well. Please explain the above confliction.—WM. CARLTON.

[We make no attempt to explain the meaning of statements that do not explain themselves.]

RACES OF BEES.

"A LANARKSHIRE BEE-KEEPER" asks me on page 500 what I think to crossed Syrians being the only stock working in supers. If he will refer to some of my articles of 1883, 1884, and 1885 he will find that I placed Syrians crossed with blacks as the most profitable bee. I also placed pure Syrians as the most pleasurable. I had not tried Punic at that time, but next to Punic I still fancy Syrians. I account for the fact of their going first into supers to their prolificness, as queens of this race lay fully 3000 eggs daily. Wait till the season ends, and see if Punic do not beat them. I am sorry, however, that these bees will not swarm with me. They are working in supers most industriously, and keep destroying the queen cells.—A HALLAMSHIRE BEE-KEEPER.

ERRORS IN NOMENCLATURE.

I AM sorry if I did not read the MS. of "R. M." correctly. We should be accurate in the description of all things, and let the nomenclature be also correct. There are many things in bee husbandry improperly termed. The word "bar-frame" leads some to suppose it is a particular kind of frame. Thirty-five years ago I had in my circulars "bar hives" and "bar and frame hives." I made these hives before comb-foundation was invented. These bars were split nearly through (such as Mr. Meadows recently patented) for the reception of strips of wax and partly built combs as guides. Some present day bee-keepers act as if no others had been born before them, so many old things and ideas being claimed as their own, and new.—A LANARKSHIRE BEE-KEEPER.

PUNICS AND A FAILURE TO IMPORT THEM.

In the *B. B. J.* for August 27th, 1891, it is stated:—"Queens could be purchased for a few francs," and further on, alluding to their having been advertised, he says, "We wonder how many bee-keepers will be induced to give £5 5s. for one." Again on September 17th a writer says, "We can send him name and address of parties in Algeria to whom he could apply for the bees." True, he only says "apply," but readers certainly understood they could obtain them. Mr. Cowan has now returned from Tunis, and I understand has failed to bring back even one queen alive. For over six years I have been the only person who has imported Punic queens alive into this country. The enemies of these bees are increasing the demand for them, and inducing more persons than they think to give them a trial.

CHANGING HIVES TO PUNICS—VIRGIN QUEENS.

A number of persons have asked me the best way to proceed in changing their bees to Punics. Pure stocks of Punics may be had at a cost of 5s. each, which is the price as advertised of two virgins. The best months in the year to get virgins are June and July. If a nucleus is made up by the side of a stock that it is intended to re-queen, when the virgin begins laying remove the old queen and unite the nucleus, then things will go on satisfactorily. The advertiser of Punic queens issues a circular to applicants giving all necessary particulars. When queens are received by letter post great care should be exercised in sliding the lid, as the queen may be injured by careless hands.

Straw skeps are best driven on the fifteenth day after the first swarm. It is not safe to do so before, as some queens may not have hatched. "After-swarms" have been known to come off after the sixteenth day, even as late as the twenty-first. What we have to do is to catch and remove the reigning virgin queen; then in two days, there being no unsealed brood or eggs left, the virgin or fertile Punic can be dropped in after forty-eight hours. Doolittle recommends that virgin queens be given five days after the reigning queen has been removed—*i.e.*, after queen cells are sealed. The experiments that I have tried on these lines, giving a virgin five days after the old stock hive swarmed, have never resulted in a perfect success. The bees have invariably protected the cells, and the Punic has led off a second swarm; still, the plan may be followed, as the virgin Punic will not be lost, but come off with a swarm as stated, or else destroy the cells, as Doolittle says they will. But here a word of caution is necessary: Never put back such a second swarm, or there is no knowing which queen will get killed, for there is sure to be some hatched before it can be put back. Better by far to hive the second swarm near the old stock, and in three or four days after drive the old stock and remove the other queen, afterwards uniting the second swarm. The process is easy in dealing with frame hives, as the reigning queen has only to be removed. If a virgin, then in two days another can be safely given them; if a laying queen, then cut the queen cells out on the ninth day, when another can be given two days afterwards.

FERTILE QUEENS.

The next course is by means of fertile queens. These can be given at any time, but the best time is during September and October, after queens have mostly ceased laying. It is always best to examine on the ninth day for queen cells. I prefer the autumn to introduce fertile queens, as there is then no risk of a strange queen getting into the hive while standing queenless.

It is expected to have at least 500 tested, pure mated, queens ready in September, and all not wanted for regular orders will be sent for 10s. down and the other 10s. next year, after they have been tried. If not liked, not only will the other 10s. not be payable, but the first will be returned also. It is this offer to return all money in full that is not liked by everybody, but I challenge anyone to publish a case in which the advertised guarantees have not been met.—
A HALLAMSHIRE BEE-KEEPER.



* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Zonal Pelargoniums at York (*E. Prothero*).—Some of the largest plants we have seen at the York Shows were quite 6 feet in diameter, nearly flat, and like bouquets for flowers. We once tried to

count the trusses on one specimen but failed. There were, however, more than 200. The plants were evidently many years old, and the varieties of necessity not modern. As you have plants 3 feet in diameter grown in eighteen months, each bearing from fifty to sixty trusses, you have done very well.

Cattleya gigas (*T. W. S.*).—The flower is a misshapen form of *C. gigas*. It is a curiosity and has no other recommendation at present. Probably it is a newly imported plant flowering for the first time; if so it should be marked and watched, as very likely it will grow out of the peculiarity. *C. Trianae* and *C. Warneri* often have badly formed and curiously coloured flowers when they first bloom, but with good treatment they soon come all right. Should the plant in question prove persistent in its present character it should be exhibited, but it would be more valuable without the curious sepals, as it would then be a very fair *C. gigas*.

Peach Leaves Yellow (*C. S.*).—The leaves are simply devoid of chlorophyll, and the wood is as pale as the leaves. Neither lacks size, but the leaves are devoid of substance, the wood is long-jointed, and the buds scarcely visible. We apprehend the soil is light and loose. If so, firm it, and supply a pound per square yard of the following mixture:—Superphosphate of lime three parts, nitrate of potash, powdered, one part, sulphate of lime one part, mix, and spread evenly, point in lightly, not more than an inch, and water copiously. If you send particulars of soil we may be able to assist you further, but admit air freely in the meanwhile. Probably the trees need lifting and the roots placing in fresh soil nearer the surface of the border.

Strawberries in the Tropics (*Emigrant*).—Your information is probably in the main correct. The following, pertaining to this subject, appeared in the *Kew Bulletin* for April:—"Strawberries are often tried in the tropics, but with varying success. In the cool climate of the hills they do very well for a time, but even there the choice sorts appear to deteriorate, and to require to be renewed at frequent intervals. Plants packed in Wardian or dry cases travel rather badly, sometimes as many as one-third to one-half being lost in one sending. To obviate this efforts have occasionally been made to send out seed selected from good sorts. In acknowledging the receipt of some seed forwarded from Kew, Mr. M. A. Lawson, F.L.S., Director of the Botanical Department, Madras, writes from Ootacamund, 15th February, 1892:—"I shall be very glad to try the Strawberry seeds, but my attempts in that line have not been a success hitherto; as the plants raised from seed have always harked back to the old alpine variety. We have, nevertheless, very good Strawberries both in Ootacamund and Bangalore, but they are grown only on a small scale. I am trying to domesticate our wild Strawberry of these hills, but as yet I have done no wonders with it." Mr. A. Henderson, Runnymede, Florida, under date of February 12th, 1892, writes:—"Strawberries have just commenced, and they will keep on until May. We have here a particular kind, consisting of three varieties, that does exceedingly well in warm countries. The runners are cut off until May (when the crop ends). This is a perpetual fruiting kind. The northern and English varieties will not thrive here." In the Blue Mountains, Jamaica, a wild Strawberry, supposed to be an escape from gardens, is found very abundantly at elevations of 4000 to 5000 feet. The fruit is regularly gathered and sold in the Kingston Market."

Grapes Unsatisfactory (*Anxious*).—The berries are of good size, and the few that are fairly coloured are good, but most are not coloured, and several are shanked. It is a clear case of overcropping. There is no remedy now, but it will help the Vines to recuperate if the laterals are allowed to extend as far as the space admits without overcrowding it with foliage. They must not, however, be permitted to interfere with the principal leaves, which must be kept clean and healthy as long as possible. Admit air freely by day, and provide enough at night to insure a free circulation. The shanked berries should be cut out, and the crop cut as soon as circumstances admit. There must not be any deficiency of water at the roots, continuing supplies as needed so as to keep the foliage fresh, and get as much stored-up matter in the Vines as possible. The evil can only be avoided by regulating the crop to the vigour of the Vines. Those planted two years previous to last February, and in their third year, ought not to have been allowed to bear fruit to the top of the house. Vines, in the early years of cropping, should not be overburdened with fruit, 1 lb. per foot of rod is sufficient at any time, and half that is better than a full crop for the first two or three years of bearing. The Vines in your case have been left too long at each season's shortening of the canes, otherwise they would not have the largest bunches at the top of the house, but have no more than 6 to 8 feet of rod on which fruit ought to be borne, which means that weight of fruit instead of 20 lbs. That is where the mistake has been made, and it must be carefully avoided in future.

Young Vines Flagging and Leaves Scorching (*G. G.*).—There is no disease whatever in the leaves, but they are slightly wilted, due to keeping the house too close or until the temperature had risen considerably, and then admitting air in a large volume at once. The leaves are small and very thin in texture, thus affording evidence that they have not had nearly enough air in their early stages, and have been subjected to too forcing an atmosphere before the Vines became well established and the roots active. This, and the light shading employed up to a fortnight ago and then removed, is the cause of the mischief. The Vines ought not to have been shaded, but brought forward gently in a well ventilated atmosphere. The old Vines on the other side of the house were not affected in the same way, because they had roots in reciprocal action with their foliage. With the sun, or even strong light,

acting early on such foliage as that sent it must flag because it has no substance, and the moisture it contains is speedily evaporated, the roots not supplying sap fast enough to meet the loss. There is no remedy but time. Admit air early, before the sun has raised the temperature of the house materially, and close early in the afternoon. Use a double thickness of herring or single of pilchard netting over the roof on the side of the house where the young Vines are, and let it remain until the foliage becomes firm, or it may remain until the early part of September. We have known Vines to flag severely through wireworm at the roots. If there is any reason to apprehend that these exist in your case, place pieces of Carrot in holes about 2 inches deep, and cover lightly. With a stick about 6 inches long, and one end pointed and thrust into the bait, a handle is formed by which the bait can be readily withdrawn. Examine daily, and the wireworms, if any, will be found feasting on the Carrot.

Mildew on Vines (*Constant Reader*).—As you "at once set to and dusted all the bunches over with flowers of sulphur when the mildew was first noticed, and have done it several times since, but to no avail," you may heat the hot-water pipes to 170°, or hotter than the hand can bear, on a calm evening, taking care not to make the water boil, and, having the house closed, paint them over with a thin cream, formed of flowers of sulphur and skim milk. The pipes should be evenly coated with the sulphur, and it is better as a fungicide to go over them twice with the brush than to put on a thick coat. The mild sulphurous fumes, tempered by the moisture given off at the same time, is fatal to the mildew, and under prudent management not injurious to the Grapes, but if over-strong the fumes harden the skins of Muscat of Alexandria and other tender-skinned white Grapes, sometimes giving them a purplish tint. The heat should be kept up in the pipes about an hour, then allowed to decline to the ordinary temperature. Mr. Fenn used anti-blight last year successfully against mildew on Vines, but we regard this as a preventive rather than a curative agent.

Australian Dendrobes (*A. James*).—From the tenor of your letter we have no doubt you will succeed very well. Mr. Williams says in the "Orchid Grower's Manual," "Many of the Australasian species succeed admirably in a cool house; but some few even from that continent enjoy the treatment of the East Indian house during the season of growth, and we have found *D. bigibbum*, *D. superbiens*, *D. Goldiei*, and a few others do best in a stove where Crotons were grown and where no shading was used. When the growth is completed they should be gradually inured to a cooler temperature and supplied with a reduced quantity of water. In the case of *D. speciosum* and *D. Hillii* the plants should be removed to the open air for a few weeks towards the end of summer, which will thoroughly ripen their just-matured stems. They should, however, be returned to the cool house before any danger from the fall of the external temperature is to be apprehended, and be placed in a gentle heat at the commencement of winter to start them into flower if they are required to bloom at that season; but if not wanted until the spring they are to be kept cool and dry all the winter."

Rating Market Garden—Assessment (*A Market Gardener*).—The question which you put was tested in the case of *Purser v. the Worthing Local Board*, as reported in the *Journal* of March 24th, 1887. This case raised the question whether glass houses and greenhouses in which fruit, flowers, and vegetables are grown for market are to be rated at their full rateable value, or only at one-fourth value by virtue of sub-sec. 1 (b) of sec. 211 of the Public Health Act, 1875, which provides, *inter alia*, that "market-gardens or nursery-grounds" shall be assessed in respect of one-fourth part only of the nett annual value. The special case found that George Purser, the appellant, was a grower of fruit, vegetables, and flowers, carrying on business at Worthing, and describing himself as a "market gardener and nurseryman," and that he was the occupier of a piece of land of about one acre one rood upon which were sixteen glass houses or greenhouses of various sizes, used by the appellant for the purpose of growing Tomatoes, Cucumbers, Grapes, flowers, &c., in the course of his business. The appellant had been rated at the full rateable value in respect of this property under the description of "greenhouses." After hearing counsel on both sides Mr. Justice Day said he did not doubt for a moment that this ground was within the exemption and should be properly rated on the one-fourth scale. His Lordship considered this a market-garden. It was a place used to garden in, and gardening was a term commonly applied to agricultural production of any kind on a small scale. His Lordship could not see that the garden was less a garden because it was wholly or partly under glass, or otherwise protected from the weather, or because it had walls or a roof. It was still a garden, and in this case it was a market-garden, because it was used for producing fruit, flowers, and vegetables for market. Mr. Justice Wills was of the same opinion, and the rate was ordered to be amended accordingly. It is well, however, to consult a solicitor in cases of this kind. Another arose shortly after the one at Worthing. This was the case of the *Lewisham Board of Works v. Cobb*. It was contended on behalf of Mr. Cobb that under Section 211 of the Public Health Act he was entitled to be rated at only one-fourth of the assessment for his nursery grounds, but it was objected that the Public Health Act did not apply to the Metropolitan district except where specially provided, and that an objection which was raised to the mode of assessment would be outside His Worship's jurisdiction. Mr. Montagu Williams did not consider his Court was the place to decide the question Mr. Cobb raised, and made an order for payment of the rates, remarking that the case at Worthing did not appear to be exactly like the present one, and he believed there was no dwelling house on the property in that instance. Your land is liable to be assessed at a higher

value by reason of the greenhouses upon it, even if the assessment is higher than the rent.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*T. O.*).—The British Fern is probably *Polystichum aculeatum*, but the specimen is insufficient for satisfactory identification. (*J. L.*).—Specimen much crushed and shrivelled, probably *Ceanothus rigidus*. We are too crowded for answering your letter on another subject this week. (*A Thirty-years Subscriber*).—1, *Polypodium appendiculatum*; 2, *Microlepia hirta cristata*; 3, *Dictyogramma japonica*; 4, *Doodia media*; 5, *Aspidium coriaceum* (*Polystichum capense*); 6, *Lastrea tenericaule* (*Nephrodium setigerum*). (*D. M.*).—1, The wild form of *Viburnum Opulus* (Linn.); 2, *Euphorbia Lathyris*, the Caper Spurge.

COVENT GARDEN MARKET.—JULY 6TH.

PRICES remain as last week with the exception of Strawberries, which are coming light at higher rates.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, Tasmanian, per case	2	6	to	5	Oranges, per 100	4	0	to	9
Grapes, per lb.	1	0		3	Peaches, per dozen	4	0		12
Lemons, case	10	0		15	St. Michael Pines, each ..	3	0		6
					Strawberries, per lb. ..	0	3		1

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beans, Kidney, per lb. ..	0	9	to	1	Mustard and Cress, punnet	0	2	to	0
Beet, Red, dozen	1	0		0	Onions, bunch	0	3		0
Carrots, bunch	0	4		0	Parsley, dozen bunches ..	2	0		3
Cauliflowers, dozen	2	0		3	Parsnips, dozen	1	0		0
Celery, bundle	1	0		1	Potatoes, per cwt.	2	0		5
Coleworts, dozen bunches	2	0		4	Salsify, bundle	1	0		1
Cucumbers, dozen	2	6		4	Scorzonera, bundle	1	6		0
Endive, dozen	1	3		1	Seakale, per basket	0	0		0
Herbs, bunch	0	3		0	Shallots, per lb.	0	3		0
Leeks, bunch	0	2		0	Spinach, bushel	3	0		3
Lettuce, dozen	0	0		1	Tomatoes, per lb.	0	6		0
Mushrooms, punnet	1	6		2	Turnips, bunch	0	6		0

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	2	0	to	4	Marguerites, 12 bunches ..	2	0	to	4
Asters, French, bunch ..	1	0		2	Myosotis or Forget-me-not, dozen bunches	2	0		3
Bouvardias, bunch	0	6		1	Mignonette, 12 bunches ..	2	0		4
Carnations, 12 blooms ..	0	6		2	Oreohids, per dozen blooms	2	0		8
Carnations, Malmaison, 12 blooms	2	0		4	Peonies, dozen blooms ..	1	0		2
Carnations, dozen bunches	4	0		6	Pansies, dozen bunches ..	1	0		2
Cornflower, dozen bunches	2	0		4	Pelargoniums, 12 bunches	4	0		6
Echecholtzia, doz. bunches	2	0		3	" scarlet, 12 bunches	3	0		4
Eucharis, dozen	2	0		4	Pinks, dozen bunches ..	2	0		4
Fuchsias, per bunch	0	6		1	Poppies (var.), doz. bunch	1	6		4
Gardenias, per dozen	2	0		4	Primula (double) 12 sprays	0	6		0
Gypsophylas, French, large bunch	1	0		2	Roses (indoor), dozen ..	0	9		2
Gypsophylas, English, small bunch	0	4		6	" (outdoor), doz. bunch	2	0		6
Lilium candidum, bunch ..	1	6		2	" Red, per doz. blooms..	1	0		2
Lilium longiflorum 12 blooms	2	0		4	" Tea, white, dozen ..	1	0		3
Lilium (var.) doz. blooms ..	1	0		3	" Yellow, dozen	2	0		4
Maidenhair Fern, dozen bunches	4	0		6	Spiraea, dozen bunches ..	4	0		6

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitae (golden) dozen	6	0	to	12	Lycopodiums, per dozen ..	3	0	to	4
Arum Lilies, per dozen ..	6	0		9	Marguerite Daisy, dozen ..	6	0		12
Begonia, per dozen	6	0		12	Mignonette, per dozen ..	4	0		8
Calceolarias, per dozen ..	3	0		6	Musk, per dozen	2	0		4
Cupressus, large plants, each	2	0		5	Myrtles, dozen	6	0		9
Dracæna terminalis, dozen	18	0		42	Palms, in var., each	1	0		15
" viridis, dozen	12	0		24	" (specimens)	21	0		63
Enonymus, var., dozen ..	6	0		18	Pelargoniums, scarlet, doz.	2	6		4
Evergreens, in var., dozen	6	0		24	" per dozen	6	0		12
Ferns, in variety, dozen ..	4	0		18	Rhodanthes, per dozen ..	6	0		8
" (small) per hundred	8	0		12	Saxifraga pyramidalis ..	1	6		2
Ficus elastica, each	1	6		5	Spiraea, per dozen	8	0		12
Foliage plants, var., each	2	0		10	Trailing plants (various), per dozen	3	0		9
Fuchsia, per dozen	4	0		8	Tropæolum or Nasturtiums per dozen	4	0		6
Geraniums, Ivy	4	0		6					
Lobelia, per dozen	3	0		6					

Bedding Plants in variety in pots and in boxes.



THE FLOCK IN SUMMER.

SHEARING, dipping, weaning, and draughting are familiar terms, which indicate the ending of spring work among the sheep and a re-arrangement of the flock for the summer. There is no resting

time, no period in the whole of the year when the flock does not require our best attention, for which it certainly repays us in one way or other, even with prices so low as they are just now. Sales of tup lambs are already announced, but for ordinary purposes it is unnecessary to purchase before September, when we procure a well-bred animal for each fifty ewes.

Since ewe mutton ceased to be in demand, the fattening of old ewes when withdrawn from the flock has not been so remunerative as it once was, but so much good is done to the land by such old sheep in folds that we continue to fatten them, only taking care not to spend one penny upon cake for them. Home-grown corn soon plumps them, and with it we contrive to make the crones pay their way at any rate. Here, again, management tells. When draft ewes have been kept with the lambs so long that they are reduced to mere "bags of bones," the fattening of them becomes so costly that a guinea's worth of food may be required to produce a sovereign's worth of mutton. Very different is it with ewes whose condition has been well sustained. They fatten quickly and cheaply, and are still comparatively profitable. Not always are low prices to be taken as a fair indication of the condition of trade—far from it. Many a flock is sold at midsummer to raise money wherewith to pay the rent. Both ewes and lambs may then be in a wretched plight, and it is precisely those who so mismanage them who are loud in complaints of low prices and hard times.

All ewe lambs selected for breeding are, when weaned, kept growing briskly, sometimes with the aid of some crushed corn, more frequently without it if we have plenty of sainfoin for them. Tares, too, are good for lambs, but they should not be folded till growth is well advanced, very young succulent growth often causing scouring. Symptoms of this should always have instant attention; a prompt change of diet, and a run daily on sound pasture do much good. In these hard times we cannot afford to wait till the second season, but must have a lamb the first year; that is why stress is laid upon the importance of a little forcing for ewe lambs. Turn in the tups early in September so as to time the lambing for January; have the ewes always well fed, avoiding extremes altogether; assist lamb and ewe by judicious feeding as soon as the lamb is able to eat, the tegs will then be strong, forward animals by autumn, quite fit for breeding. There may be a degree more of uncertainty as to results from such young animals; but we may certainly calculate upon an average of a lamb per ewe. Under good management early breeding does not affect the growth of the ewes at all; we have had no better ewes than those from which a lamb has been had in the first year of the ewe's existence.

Wether lambs, hogs, or hoggets are so useful for autumn and winter folding that they are mainly kept over for that purpose, and are not forced on for an early sale. Sheep folds enrich the land, keep down manure bills, render the flock very much more to the farmer than a mere producer of so much mutton and wool, and should always be regarded as an indispensable adjunct to successful farming. Hogs are much more suitable than ewes for winter folding on arable land. Such sturdy young animals have more vitality, more strength to withstand the effects of the unavoidable exposure than pregnant ewes, coming out of the folds gradually in batches ripe for the butcher, leaving the land rich in fertility for the next crop. Old ewes drafted from the flock are, on the contrary, folded on pasture—poor upland pasture preferably. If it is very poor the folds are used for forty-eight hours, size of fold always being a hurdle for each sheep. For pasture in fair condition twenty-four hours is sufficient, twice the area of land being thus covered, as it very well can be when there is an annual dressing of manure. There is much more true economy in an annual feeding of soil than when it only has manure once in two years. Soil exhaustion is then practically impossible, and the sound principle of sustained fertility is applied in the best

way—i.e., that of home production and the avoidance of manure bills. Although we lay such stress upon the value of chemical manures, preference is always given to sheep folding whenever and wherever it is possible.

Summer is the time to get under and keep under foot-rot. Let the flock have a frequent change of quarters; separate every affected animal from the flock; examine all the feet of sheep in a tainted flock frequently; look closely for pieces of a hard substance in the hoof division; pare off any broken or overgrown parts of the hoof most tenderly; use Gell's ointment upon wounds or diseased parts, and disease will be kept down to the comfort of the flock and the profit of the flockmaster.

WORK ON THE HOME FARM.

Haymaking is now in full swing, and we have gladly dispensed with the services of some fifty labourers from estate work to assist the tenants in saving the hay. It is, indeed, a time of anxiety, and everything possible must be done to make good hay. With the barometer at "set fair" we can venture to dispense with haycocks, but they cannot be avoided in unsettled weather. A proud man was an old tenant who had a "bit o' good hay" to spare for the squire's stables at the beginning of haysel, when most of his neighbours had long ago used every scrap of dry fodder. Ah! there is nothing like good management—that working with a purpose and plan, which takes well into account the possibly long hard winter and late spring.

Do not wait for a heavy crop, but mow now and let your stock have the benefit of an abundant aftermath. To cheesemakers this is a point of especial moment. A good flow of milk at midsummer is of vital importance; of equal importance is a full aftermath of rich herbage. Then is the time when it is most profitable, because it means more and richer cheese. The late spring seriously affected both quality and quantity in the cheese making, but matters have improved so much that at our best cheese farm the number in the cheese room on the last day of June was only twelve behind the average. The only profitable store castle for dairy farmers is a reasonable number of heifers. Steers should always be got rid of as calves. If this were done, the true dairy stock—the herd—would not so frequently be on short commons in winter.

At the home farm we are making several stacks of Rye grass hay, containing only a slight mixture of Clover. With carriage horses and hunters to supply, there must be a special and ample provision of good sound hay for the purpose over and above all possible requirements of home farm stock. Hay made from "seeds" is much in favour with the rather difficult requirements of the superior stables; so, too, are winter Oats. It is sound policy to meet such wants so fully and well as to prevent complaints, and to avoid the too common friction between the departmental managers of large establishments. These stacks of hay are made within easy distance of the stables, in view of less carting in winter, as well as to save time now, by building stacks in a corner of the hay field.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1892. June and July		Barometer at 32°, and Sea Level.	Hygrometer.		Direction of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday	.. 26	30.057	64.8	56.7	W.	57.9	77.9	54.6	124.9	49.9	—
Monday	.. 27	30.142	67.2	61.9	W.S.W.	59.9	80.9	59.3	129.6	55.1	—
Tuesday	.. 28	30.166	67.9	62.4	N.W.	61.7	79.8	57.0	104.8	51.2	0.714
Wednesday	29	29.888	58.9	56.3	W.	61.9	62.1	58.6	105.1	55.9	—
Thursday	.. 30	30.351	60.4	52.9	S.W.	59.8	72.1	43.9	119.3	38.8	—
Friday	.. 1	30.269	65.0	54.9	S.W.	59.1	73.4	48.7	122.8	42.0	—
Saturday	.. 2	30.161	68.4	58.1	S.	59.4	78.0	52.3	121.3	45.9	—
		30.148	64.7	57.6		60.0	74.9	53.5	118.3	48.4	0.714

REMARKS.

26th.—Bright and hot; a little cloud in afternoon.

27th.—Sunny and warm.

28th.—Overcast morning, a little sun in afternoon; thunderstorm from 8.30 P.M. to 3 A.M., violent from 9 P.M. to 10 P.M., and 1.45 A.M. to 2.15 A.M. on 29th; 0.20 inch of rain fell in five minutes at 9.30 P.M.

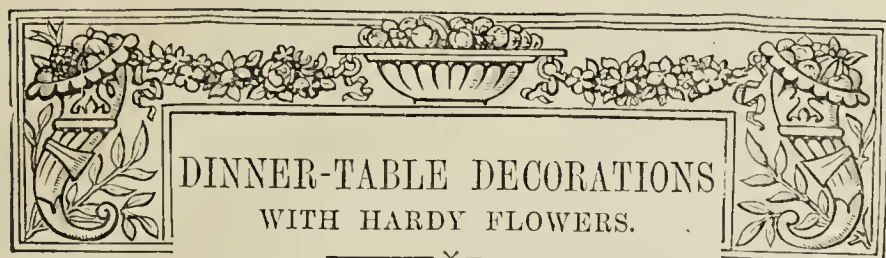
29th.—Thunderstorm till 3 A.M., then overcast; frequent sunshine after noon.

30th.—Generally sunny and warm, but occasional cloud in afternoon.

1st.—Brilliant morning, cloudy at times in afternoon.

2nd.—Bright and warm.

Fine summer week, with thunderstorm on Tuesday, but not much damage, as the lightning was chiefly from cloud to cloud, not from cloud to earth.—G. J. SYMONS.



It is not often that it falls to the lot of any gardener to carry out a series of dinner-table decorations solely with hardy flowers, nor is it altogether desirable that it should be so; indeed it is practically impossible to produce an effective display with such materials at many seasons of the year, and it so happens that the greater part of this kind of work has to be carried out at the very seasons when flowers are comparatively scarce, even where great resources are at command. When, therefore, a great event which necessitated the carrying out of dinner-table decorations on an extensive scale fortunately takes place in the summer months, when flowers are abundant in the open air, it is well to make use of them for such purposes, so that the choicer ones may be reserved for the embellishment of other rooms in the castle or the mansion.

I hold the opinion that dinner-table decorations are judged principally by the effect produced. If that is beautiful, striking, or pleasing, it is only a secondary consideration whether the materials used to create these effects are the simplest flowers from the garden or the roadside of our own land, or the choicest exotics brought from distant climes. Now this opinion would not be worth much to readers of the Journal if I advanced it simply as such, but fortunately I had the opportunity recently of putting this view to a pretty severe test by carrying out extensive table decorations for six consecutive nights entirely with hardy flowers. That the departure was perfectly successful is shown by the fact that I received high compliments from my noble employers, who dilated upon the great beauty of the arrangements, and who had the satisfaction of knowing they were greatly admired by the large and distinguished company present. I trust, therefore, a few notes concerning the flowers used, and their method of arrangement, may be both interesting and useful to some readers of the Journal.

Before proceeding further it is necessary for me to impress upon my readers the fact that the dining room wherein these decorations were carried out is of unusual size, and is fitted up throughout with regal splendour; the elaborate decoration of the walls and ceilings being executed in white and gold, while at each end are beautiful carved figures which rank among the finest examples of that ancient art. The dinner table, too, is of unusual width—6 feet. Amidst all these massive surroundings it may, therefore, be easily imagined that flowers of a bolder type than those generally used for the purpose must be necessary to produce a really effective display. In order to prove this to our own satisfaction, on one occasion flowers of a light character were entirely used. The effect was that with so much that was imposing around them they seemed quite out of proportion, and to use a common but expressive term were simply lost. In order to be able to produce as great a change as possible, the flowers on each occasion were, as a rule, of one colour only. This plan, however, had to be departed from on the first night, as Pansies and Violas were intended to form the chief feature. It was also desirable to use three large handsome stands for the centre of the table. These had each a beautifully worked base, upon which was mounted a circular framework. Into this tins filled with sand were fitted, the flowers and Ferns being stuck into the sand.

The central stand was placed immediately under a magnificent

chandelier, and was about 2 feet in height; the other two, being placed near the ends of the table, were 6 inches higher. White Pæonies, double white Pyrethrums, and Marguerites were arranged lightly into these. A few fronds of *Polystichum angulare proliferum* were placed so as to stand out lightly from among the surrounding flowers; other fronds of the useful hardy Lady Fern were inserted here and there to hide the base of the flower stems. The sides of the stands were lightly draped with long pieces of *Asparagus tenuissimus*, which in some instances reached down to the cloth and trailed a foot or 18 inches upon it. Field Grasses cut with long stems were next inserted at irregular heights and distances, so as to stand well up above the surface of the flowers, making the whole arrangement appear wonderfully light, and yet imposing. A fringe of Maidenhair Fern being next placed around the base, this part of the work was completed. Between these floral arrangements, which were placed along the centre of the table, two candelabras were located, and as these as well as the stands were placed a considerable distance apart, the cut flowers standing well above the heads of those sitting at the table, the view across it was but slightly impeded. All other arrangements were kept quite low.

Ten ordinary large size plates were next obtained; in the centre of each a small graceful Palm was stood, each having a mound of moss placed around it. These mounds were covered with *Lycopodium denticulatum* (which had been largely grown in pots for the purpose), care being taken to let the moss droop well over the sides of the plate, so that when placed upon the cloth no part of it could be seen. Four of these mounds of Lycopod were irregularly dotted with Viola Yellow King, two with Mrs. Granger (bronze), two with Fancy Pansies, all having shades of the same colour, the remaining two being arranged with those having white edges and pale blue markings. The flowers were picked with long stems, which were inserted into holes made in the Lycopod with a pointed stick, and arranged in an easy undulating style, the centre of the flowers pointing in various directions, or nestling in pairs among the verdant green Lycopod. These circular arrangements were then placed upon the table wherever required to break the flatness, dishes of dessert being set between them and at the four corners of the table.

The whole of the dessert dishes, as well as the candelabra and the base of the epergnes, were traced around with beautifully coloured pieces of golden Honeysuckle, and dotted with dark blue Viola. This tracing also connected the dessert dishes with the whole of the ornaments used along the centre of the table. The effect produced by this method of arrangement was bold and striking when entering the room, and when sitting at the table the undulating surface of interesting groups was in itself a pleasing feature.

The following night the table was somewhat smaller, and silver ornaments were used exclusively. Strips of art silk of a soft yellow colour were placed across the centre of the table; these were 2 feet in width, the junctures being covered with small sprays of Golden Yew. The same material was placed all around the outer edges, taking care to have small sprays breaking the outline here and there, and wherever the cross lines met the outer ones those points were made much fuller. Pink flowers only were used on this occasion. A large bowl was arranged with pink Pæonies of a bright shade, such Fern fronds as those already mentioned, and a liberal admixture of the beautiful hardy Ribbon Grass (*Phalaris arundinacea variegata*) as well as field Grasses. Banks of moss, surmounted by a plant of *Dracæna Veitchi*, were formed near each end of the table, and lightly covered with Maidenhair Fern and Pæonies. Four silver vases filled with plants of the same variety of Fern were placed on either side of the candelabra, and four Kentias with Lycopod bases were stood in the open spaces intervening. Pæonies were then arranged on the tracing wherever the lines intersected, and a few sprays of Ivy-leaved Pelargonium Madame

Crousse dotted here and there around the tracing and dessert dishes. The Golden Yew and yellow silk formed a most pleasing combination of colour when seen under the influence of artificial light, and the whole arrangement was low, yet imposing and effective, and moreover a complete change from the preceding attempt. The subject will be resumed next week.—D.

CUCUMBER DISEASES.

ALTHOUGH I grew Cucumbers for the production of seed many years, yet it was always in frames, or if in houses at least on soil beds in a trailing fashion rather than on hanging trellises. For that reason perhaps, for I could not discover any other, my plants, or rather fruits, never suffered from that form of disease recently referred to, and which is in evidence in so many houses where Cucumbers are grown on trellises.

It has often been a matter for surprise to find fruits doing so badly where all conditions of soil and heat seemed favourable; indeed, it may be said, almost with truth, that miserable, imperfect fruits seem to be more the rule than the exception. Now, I had never attributed this marked defect to any *bona fide* disease; rather I had attributed it to some defect in the fruit organs, arising either from imperfect fertilisation or from absence of essential parts of the flowers. There are perhaps conditions in Cucumber houses which are not favourable to perfect organic production, perhaps too close an atmosphere, perhaps too damp, perhaps too hot and dry, generating red spider in the flowers, which destroyed the vital organs. Whatever it may be, this very imperfect development of Cucumber fruits is a common and troublesome matter, and does not seem to be easily overcome by even ordinary good growers; but if this defect is not common with the fruit of plants grown on the ground may the cause be traced to the method of growing plants in houses? It is very well known that fertilising the blooms is not at all essential to the production of good fruits for immediate use, but only for seed production, and blooms so fertilised seem, so far as my experience goes, never to fail in producing perfect seeding fruits. Does that fact tend at all to show that the very imperfect structure of fruits, so common with Cucumbers, must arise from imperfect floral organs; and if so, how is such imperfection to be associated with disease?

The only disease, if it might so have been fitly termed, with which I was troubled when growing Cucumbers for seeding was stem decay, and which always showed itself at a very critical time in the plant's life. That usually was when several fine fruits had set on each, and there was considerable strain on the plants to support them. Then, when the days were hot and sunny the leaves would flag, points of the shoots would become flaccid, and in three or four days the collapse was complete. I cured that trouble, which once was common, sometimes losing one-half the plants in that way, by planting originally as shallow as possible, for deep planting seemed to have been more productive of this stem decay than any other cause. In planting also I adopted the practice of inclining the plants so much, that when the branches rapidly developed there was no breaking down or undue bending of the main stem, which also aids to produce this form of stem canker or decay. Thus the evil eventually was greatly minimised. Even to plants that suffered from it I found great aid could be given by mulching the beds or soil with a coating of very short or decayed manure, as if shoots here and there were somewhat buried in the mulch roots would be emitted, and thus I have had plants producing heavy crops of fruit which have had to exist entirely on these layered branches, the main stems having entirely decayed.

Mildew on Cucumbers is more easily dealt with in heated houses, where the pipes can be well coated with sulphur wash, than in frames, whilst thrips and red spider are chiefly the product of neglect. Generally Cucumber culture is not difficult, and some growers always succeed in rearing perfect fruits.—A. D.

BULB CULTURE AT HOME.

REGARDING the question of cultivating spring-flowering bulbous plants in Britain, I have no doubt as to either its feasibility or to its being practical. For very many years I have made the cultivation of Lily of the Valley somewhat of a study, and with the ordinary forms, the stock of which I had alone to begin with, as with the Berlin variety, of which I have now a very large quantity of strong growths ready either for forcing or for flowering in the open, I do not think any foreign produce could be better; in fact, I have many times been told that our home-grown flowers

were much the best. The chief factor to securing this result has been simply to give the growths sufficient space for development, and to lift and give a change of ground every third or fourth year. Annual surface dressings of rich soil or of natural or chemical manure do the rest.

Very much, or perhaps to speak more correctly, exactly, the same remarks apply to the culture of the best Narcissi, to Tulips, and even to Hyacinths. For a few years past the latter have been grown in good soil instead of being planted out in the pleasure ground on grass, where they dwindled away to nothing but leaves. I find that after a few years to get over the bad results of forcing the spikes come in the open quite as good as many of those bought in for pot culture. Some sorts do better than others, as for instance King of the Blues is always specially good. Tulips do better than Hyacinths. A near neighbour (Mr. Porter, gardener to Lady Dalrymple, Leuchie) makes quite a speciality of Tulip culture, and not only flowers them in the open but forces them quite as successfully as bulbs bought in. The soil in this case inclines to clay. In ours it is open and light.

In the case of Narcissi I had an opportunity, during the season just past, of testing the relative value of Dutch and own grown bulbs, and I have no doubt whatever that the latter are quite as good as the former. Through the kindness of a friend I had bulbs of a few leading sorts from one of the best Dutch growers, and our own were in every respect as good. The sorts comprised Poeticus ornatus and bicolor, and of both of these three-year-planted bulbs produced flowers equally as good as, and foliage rather better than, the imported. The other kinds I could not fairly compare. But without having the best means of comparison there is no reason to doubt that equally good flowers and foliage of such popular sorts as Emperor, Empress, Sir Watkin, the double Incomparabilis section, all the forms of Poeticus, Cynosure, Stella, Telamonius, and others can be grown in this country.

The main point to consider in regard to Narcissi is not to allow the bulbs to get overcrowded. In the case of sorts which do not increase rapidly there need be no hurry in lifting for a number of years, only in this case provision must be made for feeding by means of surface dressings, applied either in autumn or early spring, the latter time being more suitable for the application of chemical manures, and the former for ordinary manure. Three years appears to be quite long enough to leave in one spot such prolific varieties as poeticus recurvus, biflorus, and poeticus fl. pleno. The second year after planting the flowers appear to reach the maximum of size and vigour, and thereafter they decrease in size, and in course of time refuse to flower with regularity.

As it is not the purpose of this paper to discuss the general culture of these I pass on to notice other bulbous plants. Irises are deservedly popular, and of bulbous forms none are more useful than the English Iris. Home-grown plants of this, if managed in somewhat the same way as hinted at for Narcissi, attain a vigour and perfection which puts imported flowers completely in the shade. Of the quaint and lovely Spanish forms I cannot write with the same decision, as they have in the past displayed a tendency to dwindle away; but that may be on account of want of proper treatment, as they have not been cared for in the same way as the others. The Kämpferi varieties I have never tried, as I feared the dryness of our soil would be so prejudicial that they would never succeed; however, I am inclined to give them a trial.

Then Gladiolus The Bride may be so cultivated as to produce as fine or finer spikes than are obtainable from foreign bulbs, and to Montbretias the same remark is applicable. But of the generality of Gladioli there seems no reason to doubt that we cannot produce corms to come up to those grown abroad. I have tried these for so long, and so many times have had opportunities to test home and foreign corms side by side, that, leaving any particular method of culture aside, there seems no possibility of doubting the superiority of continental-grown bulbs.—R. P. BROTHERSTON.

SCALDING AND SHANKING OF GRAPES.

MUSCAT of Alexandria sometimes has the berries at the upper side of the bunches and on the side exposed to the sun more or less scorched. It is most prevalent after a period of dull weather. The sun acting on the house before air is admitted causes the atmospheric moisture to be condensed on the cooler surface of the berries, which do not heat as quickly as atmospheric air charged with moisture. The preventive is to admit air rather freely, especially in the early morning and through the day, with a little constantly in dull weather and at night, maintaining a genial warmth in the pipes so as to keep a temperature of 65° to 70° artificially. It is most prevalent towards the close of the stoning

period, just before Grapes change colour for ripening, preceding that about a fortnight to three weeks. The gentle warmth and free ventilation is sufficient for Lady Downe's—the variety most liable to scald, but Muscat of Alexandria beneath large panes of glass is benefited, especially in the northern parts of England and in Scotland, by a slight shade at this period and during the early stages of ripening, when the weather is very bright. A double thickness of herring nets drawn over the roof lights breaks the fierce rays of the sun sufficiently, and is most necessary from mid-June to early August.

Great deterioration of the crop is often caused by shanking, and it is in a great measure preventible. No one knows for certain by what it is caused, but various errors of management tend to induce and accelerate the disease. The first of these is an unfavourable rooting medium. Borders mechanically or chemically wroug never produce Grapes free from shanking, and Vines grown in natural soil suited to the Vines are least afflicted with this malady. It may arise through a deficiency of ventilation in the early stages of growth, combined with too much moisture, inducing long-jointed growth and thin foliage, especially when the roots are deep in a favourable rooting medium. Properly made borders and well managed Vines are necessary to avoid shanking. The foliage must be fully exposed to light and air whilst it is forming, no more growths being allowed than can have those essentials, which are important for a steady supply of nutriment and its proper assimilation. Encouraging root action by a thicket of growth, which must sooner or later be removed in quantity, is the way to accelerate the disease by producing a check and causing a stagnation of the vital forces when it is most necessary that they should be active for elaborating the crude substances and converting them into assimilable matter. By keeping enough foliage in a healthy state to maintain the supplies of nutriment from the starting of the Vines until the fall of the leaf, and no more, shanking may be reduced to a minimum. Vines prone to shank should be given time, sudden fluctuations of temperature be avoided, giving particular attention to ventilation, especially early, and adopting the extension rather than the restrictive system.

Overcropping favours shanking through needlessly impairing the energies of the Vines. Whatever weakens the Vine tends to render it an easier prey to disease, but weakly healthy Vines shank the least; the sappy and long-jointed Vines often shank on the stem of the bunch. Get, therefore, all the chlorophyll possible into the growths by regulating them so as to expose all to light and air, not occupying all the space at once, but leaving some for lateral extension, and by keeping this stopped, so as to cause an equal and steady flow of sap, as much freedom from shanking as it is possible to secure may be attained. It is only by judicious treatment that health can be preserved and shanking reduced to a modicum.—G. A.

ANEMONE CORONARIA.

WHILE visiting the Bath and West of England Agricultural Show at Swansea a short time since I took the opportunity of calling on Mr. Harris, nurseryman, Blackfield, to see his St. Brigid Windflowers. Mr. Bull, jun., of Chelsea, who had seen them a few weeks before the Show, told me they were the finest he had ever seen, and that they were well worth going to see; and I must say I never saw a better lot of Anemones anywhere for size, shape, and colour. The plants, which were 3 feet high, formed an edging on both sides of a long gravel walk, and were a mass of flower from end to end. The flowers individually were of great size and substance, both double, semi-double, and single, many of them resembling large Pæonies, while others were cupped like Tulips, and some assumed the form of Poppies and Japanese Chrysanthemums, their colours ranging from the deepest scarlet to almost pure white, and from a beautiful blue to a deep purple.

Anemone coronaria and its varieties have been cultivated in this country from an early period. It is a native of the Levant, and was introduced from Holland in 1597, and yet it is surprising that a plant so useful for cut flowers is not more grown in private establishments, where there is a great demand for flowers at all seasons. It is easily cultivated, and with a little attention in planting it may be had in flower for six months in the year.

Mr. Harris sows the seeds outside, in a bed of moist loam, some time in June, and when the plants are sufficiently large to handle the strongest are picked out (7 inches apart) in the position where they are to flower the following year; the others are allowed to ripen their tubers in the seed bed, when they are dug up and stored away in boxes in a cool dry place till planted again in October, January, or even later, according to circumstances.—A. PETTIGREW, *Castle Gardens, Cardiff.*



NOTES ON THE NATIONAL.

PERHAPS no exhibition of the N.R.S. was ever looked forward to so much as that held at the Crystal Palace on the 2nd inst., and this on account of the number of uncertain elements by which it was attended. First of all, the weather of the preceding six months had been variable and trying to a degree, and no one could tell exactly what were to be its effects upon the quality and quantity of the blooms. Intimately connected with this was the very early date of the Show, and these two factors gave rise to numberless questionings beforehand. Would the southern growers sweep the boards, or would their blooms be over and the Midlanders carry all before them? Would A be ready or B be out? or would C be the victor of the year? And so on.

When the eventful day arrived the results proved as mixed as those of the general election. In the great trade classes the northern champions, Messrs. Harkness, were unable to show, and the famous Colchester growers triumphed, the junior taking the trophy, while the senior captured both the silver medals. But in the amateur division the very opposite was the case, for if Mr. Lindsell's situation is not altogether a northern one it is far more so than that of his doughty opponents, Messrs. Budd, Slaughter, and West, while Mr. Baker was conspicuous by his absence. And yet it is an open secret that only three or four days before the Show Mr. Lindsell had scarcely a bloom ready, while on the day he achieved a "record" triumph, winning the trophy for the third time consecutively.

Another distinguishing feature about this year's Show was the absence, for the first time in the history of the N.R.S., of all fourth prizes, and the only opinion which seemed to find any expression was one of unmixed dissatisfaction. There was a proviso that where exhibits were numerous and of good quality extra prizes might be awarded, but that was treated as a dead letter by the Judges. The exhibits were numerous, nineteen, thirteen, ten, and nine boxes being staged in some classes, and the quality was fully up to the mark, but not one extra prize was awarded. These fourth prizes must certainly be replaced another year, or the best interests of the Society will suffer. Already one grower who assisted at the formation of the Society, and who has exhibited at every one of its shows, has withdrawn from membership, and others threaten to follow his example. Several of our veteran amateurs began with winning a fourth prize, and encouraged by that small success have gone on to greater things, while if no award had been gained they would, very likely, have been discouraged and have given up.

But the most interesting feature of all was the division of the amateur portion of the Show into sections, in each of which only those of (approximately) equal strength were allowed to compete, and the result of this experiment proved eminently satisfactory. Two points were strongly urged by Messrs. Bateman, Grahame, and others in their prosecution of the scheme before the annual meeting, viz., that many new members would be added to the Society, and that from them, and existing members, many new exhibitors might be expected, and these two contentions were proved up to the hilt. One local secretary was able to send up twenty-two subscriptions, another sent thirteen, and several others smaller numbers; while several old members, who had grown tired of the unequal fight, were induced to renew their membership, and were found competing, with better success. As to increased competition the large number of boxes, more especially in the smaller classes, bore unmistakeable testimony to a lively appreciation of the revised conditions. The boxes of twelve, nine, and six of a sort, in the respective divisions also, formed quite a show in themselves, and added greatly to the beauty of the Exhibition.

One most pleasing incident of the day was the re-appearance (as a Judge, but not yet as an exhibitor) of Mr. W. J. Grant, after his terrible accident, with its long weeks of subsequent suffering. Many and hearty were the greetings that he received upon his wonderful restoration, and the greatest satisfaction was expressed that so able a rosarian and such a *bon camarade* has been spared to us.—J. B.

THE WATERING OF PLANTS.

[A paper read before the members of the Liverpool Horticultural Association by Mr. B. CROMWELL, gardener to T. Sutton Timmis, Esq., Cleveley, Allerton.]

PLANTS, whether rooted in the soil, floating in the water, or suspended in the atmosphere, are dependent upon air, moisture, heat, and light for their perfect development. We all know that water is one of the chief necessities of life, and one essential for the activity of all living agents in animal and vegetable life. By its application to plants it increases and quickens their vitality, and enables them by means of certain organs to absorb and assimilate food consisting of elements necessary for their growth and increase. A most important condition for healthy plant growth is a perfectly aerated soil. Porosity in a soil always tends to the oxidation of organic nitrogen, converting the insoluble and unseen substances into soluble, and easily assimilated or digestive food.

Heat is another prime factor acting on the soil, hence plant growth is much more energetic in a greenhouse, where the degrees of warmth and moisture can be better regulated, than in the open garden. The cultivator must remember that the conditions in a stove or greenhouse are artificial, and these are some facts which every gardener ought to understand perfectly, but which are, nevertheless, often misunderstood. The most important point to be remembered is, that warm air takes up much more moisture than cold air does, and hence the liability of plants to be dried and scorched on a very cold frosty night by what we call fire heat. The heated air from the pipes dries the plants, and it is dried in turn by contact with the cold glass, which robs it of its moisture, the cold glass acting as a condenser. I mention these facts as having a very important bearing on the watering of plants in pots, and affording atmospheric moisture when it is necessary to increase the temperature by fire heat. To counteract the drying tendency of extra fire heat we sprinkle the floors and stages of the houses with manifest advantage.

I am of opinion that firm potting has very much to commend itself in connection with the watering of plants. When a firmly potted plant requires moisture the water when applied gradually passes through the soil; the plant will then not show signs of distress so readily as one in looser soil, through which the water rushes almost as fast as it is poured in. The soil is left loose in order that the roots may penetrate it freely. They may do so by rambling through it, and become long and fibreless; but matted fibry roots are the most satisfactory, and these are only produced in firm soil. The leading roots have to fight their way through such soil, this causing them to produce innumerable fibres, which are the life of the plant. I am of opinion that the more difficult a plant is to grow the more important it becomes to have it established in firm soil. The result of potting an Azalea, Heath, or any other plant having very fine hair-like roots in loose soil is usually disastrous through the constant watering needed, and the water passing through so quickly often washes the soil into the drainage, thus rendering the whole of the compost in the pots sour. I may say that the benefits of firm soil are confined to no class of plants, but apply to kitchen garden crops, plants in pots, also Vine and fruit tree borders. Due care must be exercised to find out the true condition of the soil, and if a plant requires water twice or thrice one day, that is no reason why it should need as many applications every day. A change in the atmosphere, the amount of moisture, or the growth of a plant may determine the necessity of a greater or less supply. If there should be any doubt about a plant requiring water, I have invariably found that the best and safest course to follow is to allow the plant to become slightly drier than at previous waterings, and by watching closely the effect this little variation has on the appearance of a plant a useful lesson will be learned and a guide to future applications acquired, for so changing and varied are the conditions under which watering has to be conducted, that even experts—men of long practice—must be students to be generally successful.

When once the soil becomes thoroughly dry no ordinary watering will rectify the mistake; even with three or four applications, the water will pass through the pot without wetting the soil in the centre. The only perfect way of watering over-dry plants is to plunge them over the rims in a bucket or tank of water, and allow them to remain for an hour or more. The water then moistens the whole of the soil, and there is no difficulty in watering in the ordinary way afterwards. While mentioning the fact of plants becoming excessively dry during the period of growth, it occurs to me that we are sometimes led to make mistakes in watering by a practice which is not uncommon to most of us—viz., top-dressing plants. Probably this might be carried out much more extensively than at present, but whether it is a good plan, except in a few particular cases, is an open question. There is, I think, this objection to top-dressing, when the surface soil is removed from over and amongst the top roots, and new soil

added in its place, it is somewhat difficult to ascertain the true condition of the lower part of the ball with regard to moisture. The old soil will dry sooner than the new, or *vice versa*, much depending on the nature of the plant, the state of its roots, the mechanical condition of the old and new soil, and on the density of both. Under such circumstances judicious watering becomes a difficult matter, even in the most careful and experienced hands. I think perhaps an occasional dressing of some artificial manure would be preferable where it becomes necessary to keep plants for a long time in small pots.

HOEING VERSUS MULCHING.

UNDER the above heading "E. H. M." takes an opportunity to criticise a brief note of mine which appeared in the Journal for June 16th (page 455), under the heading of mulching. In the concluding lines of that note I said that "without incessant watering or heavy mulching it is impossible to obtain satisfactory crops from light shallow soils in dry hot summers." I repeat and emphasise that statement here, and in doing so I may say that no man sets a greater value on the good resulting from the frequent stirring of the soil between the young crops of Onions, Carrots, Parsnips, Cabbages, and others with the Dutch hoe than I do; and I have frequently advocated the practice in the horticultural press, as the stirring of the soil from 1 to 2 inches deep between the rows, according as the soil is heavy or light, not only destroys weeds, but at the same time accelerates growth in the crops.

"E. H. M." is anxious to know whether gardeners in general agree with what I have said in favour of mulching. He says, "For my own part I must say that I have greater faith in the constant use of the hoe." That being so, I will ask your correspondent whether he ever mulches his rows of Peas and Beans or wall fruit trees, and if so, for what purpose? Should he pay me a visit—and the journey is not, I think, a long one—I can show him rows of Peas which were heavily mulched as soon as they were planted out, earthed up, and staked, and from which we have been gathering good supplies of large well filled pods of Carter's Telegraph, Anticipation, and Sutton's Royal Jubilee, the first mentioned variety, since the middle of June, our previous gatherings having been obtained from earlier varieties. The plants are in fine condition, the haulms vigorous and heavily laden with produce, which is admired by all gardeners and others visiting here.

Anyone having a light and shallow soil can very easily test the matter for himself by sowing a few rows of Peas and Beans, half of which should be mulched and the other half not, using the Dutch hoe along each side "constantly" instead, as recommended by "E. H. M.," and note the results, which I fearlessly assert will be immensely in favour of mulching; the produce will not only be finer and of better quality, but also will be of longer duration. I have not in the smallest degree exaggerated the efficacy of mulching crops of Peas and Beans, Tomatoes, and fruit trees growing in "light shallow soils in dry hot summers." "E. H. M." says in the concluding lines of his note that, "it may be impossible for me to obtain satisfactory crops under the conditions which I specified," adding, "but it is not to others." I may remind him that perhaps what he looks upon as being satisfactory crops might be considered unsatisfactory by some others of the craft.—H. W. W.

IN reply to "E. H. M.'s" inquiry on page 494 of the *Journal*, I for one do not believe in the mulching of growing crops of vegetables, but prefer the free, yet careful, use of the hoe as often as required, so as to keep the surface crust broken. This admits air to the soil, and thus stimulates and encourages root action and consequently a free growth. Certainly permanent fruit plantations, such as Strawberries, Raspberries, and other small fruit, also pyramid Apple, Pear, and other trees are better mulched early, to supply food to the trees, and also to encourage the production of roots near the surface. But whoever has tried the two ways named on the growing crops in the gardens under his charge, and who has taken the trouble to observe and carefully note the different results from each plan on such vegetables as Carrots, Onions, and the Brassica family, in fact all annual growing crops, also bedding plants, cannot but admit that the free use of the hoe to lighten the soil is valuable in encouraging growth. One can almost see some vegetables grow after the application of the hoe amongst them; and if it were more freely used amongst Carrots and Onions at the proper time we should hear less of the Onion fly and Carrot grub. Many gardeners have the will to do these things at the proper time, but unfortunately they have not enough men at hand to keep pace with the work in the busy time, and consequently the success they so much desire is partly lost through no fault of their own. My advice is, Mulch fruit trees early, and apply the hoe as often as possible amongst all vegetables.—JOHN CHINNEY.

A "CLIMBING" SALVIA.

YOU have on two occasions given me information respecting horticultural shows, and now I venture to trouble you again, as I wish if possible to obtain seed of a scarlet flowered "climbing" Salvia. Some twenty years ago I was employed in a gentleman's garden in Huntingdonshire, in which was an old-fashioned conservatory. Planted against the back wall, and trained partly over the roof, was a scarlet flowering

plant, which I was informed was a *Salvia*. It was nearly always in bloom, though by no means so floriferous as *S. splendens*, and was perhaps what some would term rather "a weedy thing;" still I always admired it, and finding how well the *Salvia* family did in this country I resolved to try to obtain the old friend. Accordingly I wrote to a relative of mine who had been head gardener at the place at that time, asking him if he remembered the plant, and if so would he try to procure seeds for me. In reply he sent me a packet of *Salvia splendens*. I felt certain that this was not the variety I wanted: for, although unfortunately there is considerable confusion respecting the names of some plants imported in years gone by, I had little doubt about *Salvia splendens* being true to name, and the event proved I was right, the plants from the imported seed being identical with those I already had.

I have never seen this climbing variety elsewhere, and after this lapse of time cannot pretend to give a very faithful description of it, but perhaps the following data may enable you or some of your readers to identify it:—The plant in question seemed to possess a true climbing habit, and must have been at least 12 feet high; the stems were similar to those of *S. splendens* but thicker and more rounded; the leaves were heart-shaped, double the size of *S. splendens*, and resembling in texture those of *S. patens*, but of a lighter green. The flowers were borne in large racemes, and were of a brilliant scarlet colour. When touched the leaves emitted a strong and somewhat disagreeable odour. I have gone carefully through the *Salvias* mentioned in "Johnson's Gardeners' Dictionary" (a most valuable book by the way, and one I should not like to be without), but fail to see anything answering to this climbing variety. Another old-fashioned plant which I do not see advertised in the nurserymen's catalogues, but which I should like to obtain seed of, is *Diplacus glutinosus*. If I remember rightly I once saw some cultural directions about this plant in the *Journal*. We had a plant or two at one place where I lived in England, but that collection has been dispersed long ago. In conclusion, to show you what a beautiful object a bush of *Salvia splendens* is in this country I may mention that there is in the park here a plant nearly 6 feet high and about 7 feet through, which for some months has been one mass of bloom, and will probably be so till it dies of exhaustion.—H. FAIRY, *Public Park, Uitenhage, Cape Colony*.

SINGULAR ABUNDANCE OF THE GAMMA MOTH.

IN the current number of the "Entomologist" Mr. Adkin gives an interesting report of the observations made by himself and others upon the sudden appearance of the gamma or Silver Y moth (*Plusia gamma*) in the vicinity of London this summer. From sundry scraps in newspapers and other local journals it seems that the insect made similar displays elsewhere, and not merely in South Britain, for it has been reported from many parts of Scotland, and localities, too, where it had been previously almost unknown. From Essex, a correspondent writes that the moth was seen by thousands; in Yorkshire, we are told, the profusion of the species was such as to attract the notice of many persons not entomologically inclined, and he naturally concludes that, unless some special interference prevent their increase, we may expect a host of caterpillars soon, and, perhaps, a yet greater abundance of moths during the autumn.

Near London, they first appeared conspicuously on May 24th, and, despite the thunder showers, they remained on the wing till about June 10th, after which date few were noticeable. In other localities the period of flight was much the same, about the last week of May and the first week of June, after which they vanished generally, but along our fields and hedgerows in the neighbourhood of Gravesend I observed stragglers till nearly the end of last month. At present I have not discovered any of the young larvae, they are probably just beginning to hatch out, and in another fortnight they will perhaps be too visible.

It is a peculiar larva or caterpillar, that of the gamma moth, from its having a formation which makes it adopt a walk like that of the "looper" or the geometer tribe. In colour it is of a leafy green, and has a few streaks of white and yellow. Mr. Adkin captured many specimens of this moth, and found them mostly in good condition but rather pale in colour, a fact suggesting that they had not recently emerged from the pupa, also he noticed a preponderance of females. It is supposed that usually the species hibernates as a moth, appearing in the first warm days of May, but there was no abundance of the insect at that time, nor was it numerous last autumn. His conclusion is that these moths were immigrants that had arrived hither from the Continent; if this be so, it is remarkable how speedily they spread themselves over the British islands. But it must be acknowledged that we have as yet no proof that such moths can travel hundreds of miles on the wing.

With regard to the history and habits of the gamma moth, as these affect gardeners, it may be added that it is one of those often observable in bright sunshine, and after dark it is easily attracted by light or sugar. The caterpillar is a very promiscuous feeder. Of late years it has not been particularly troublesome in Britain, but at one time it did much mischief to Peas and Cabbages. On the Continent, where it is often very abundant, it frequently lays gardens waste, advancing from plant to plant till it leaves bare shoots or stems. The French call the species the "pot herb moth," and dislike it, specially from the idea that it communicates an unwholesome quality to anything it feeds upon or crawls over. I have seen the caterpillars devouring the leaves of the

Chrysanthemum in August, that being the month when they are chiefly to be noticed. A sharp look-out will have to be kept for them during the next few weeks, for there must have been many eggs deposited, and if the season is not a wet one they will thrive rapidly.—ENTOMOLOGIST.

SARRACENIAS.

(Continued from page 4.)

THE hybrid *Sarracenia* raised so far have all been produced in British gardens, Messrs. Veitch & Sons, W. Bull, Swan, Paterson, and Moore of Glasnevin being the principal raisers. The species



FIG. 4.—SARRACENIA PATERSONI.

intercross freely, and the seeds germinate readily if sown in heat and kept very moist. By crossing the comparatively hardy *S. purpurea* with the larger growing species some very distinct and handsome pitcher kinds have been obtained, such as *S. Swaniana*, *S. melanorhoda*, *S. Atkinsoniana*, *S. Chelsoni*, &c. These are all remarkable for width of pitcher and depth of colour, as well as for sturdiness. *S. purpurea* is a hardy plant in the warmer parts of England. I have seen fine tufts of it in the rock garden of Messrs. Backhouse & Sons, York, and it is exceptionally well managed in

the open air in Sir E. Loder's garden at Horsham. Grown in a peat or sphagnum bog in a sheltered position exposed to plenty of sunlight *S. purpurea* is quite at home. It is, of course, equally good under pot culture.

S. Patersoni (fig. 4) is the result of crossing *S. purpurea* and *S. flava*, the parents of *S. Stevensi* figured last week, and although the two hybrids are very similar to each other they differ in form of flower and in the colouring of the pitchers. *S. Patersoni* was raised by Dr. Paterson, and exhibited by him before the R.H.S. about seven years ago. Its pitchers assume in autumn a rich deep claret red colour with veins of a darker hue, and they are 2 feet long. I consider this one of the very best *Sarracenias* yet raised. Its flowers are as large as those of *S. Stevensi* and coloured deep crimson. *S. Chelsoni*, raised by Messrs. J. Veitch & Sons from *S. purpurea* and *S. rubra*, has pitchers similar to those of *S. Patersoni* but darker in colour. All the hybrids of which *S. purpurea* is one of the parents are remarkable for depth of colour. By crossing it with the elegant beautifully tessellated *S. Drummondii*, a hybrid of exceptional merit as regards colour, but not first-rate as a grower, was raised a few years ago and named *S. Mitchelliana*.

S. Drummondii is perhaps the handsomest of the species, its erect pitchers, 2 feet long, closely reticulated with white on a green ground and splashed with crimson, wholly crimson inside, being produced freely first in spring and again in August if the plant is properly treated. Its flowers, which are rich vinous crimson in colour, are fully 4 inches across. There are several named varieties of it—viz., var. *alba*, with more white in the pitchers than in the type, and the flowers paler in colour: var. *undulata*, darker in the colour of the pitchers; var. *mexicana*, &c.

S. rubra is another species with long narrow pitchers, green, with purplish veins, and flowers coloured brown crimson. It is not nearly so ornamental as some of its progeny. The singular little *S. variolaris* with its short pitchers, hooded at the top and coloured green with a creamy mottling, is worth growing for its pitchers as well as for its elegant pale yellow flowers. By crossing it with *S. psittacina*, another short pitcher, prettily marked species, the hybrid known as *S. formosa* was obtained by Messrs. J. Veitch and Sons, and by crossing *S. psittacina* with *S. purpurea* one of the most beautiful of the smaller *Sarracenias* was raised by that skilful and urbane Veitchian propagator, the late Mr. Court, after whom the hybrid was named. *S. Maddisoniana* sprung from the same parents as *S. formosa*, and the distinct prettily marked *S. Swaniana* from *S. purpurea* and *S. variolaris*. The prettiest of all the *psittacina* or Parrot-like set of hybrids is that named *Wrigleyana*, raised in the gardens at Bridge Hall, Bury, and distributed by Messrs. B. S. Williams & Son a few years ago. Its parents are the same as those of *S. formosa*, but the pitchers are much finer, being from 12 to 15 inches high, curved and hooded so as to suggest the allied *Darlingtonia*, bright green mottled with almost transparent white and veined with crimson. I have read somewhere a statement to the effect that the parents of this hybrid are *S. Drummondii* and *S. psittacina*, but this is surely a mistake.—W. W.

(To be continued.)

THE ARTISTIC AND EFFECTIVE ARRANGEMENT OF PLANTS AND FLOWERS.*

DURING the past ten years marvellous strides in the way of improvements in the artistic and effective arrangement of plants and flowers have been made. For myself, I can clearly see these changes and rejoice in the knowledge of them, and I feel that to those who helped to bring about these changes for the better our warmest thanks are due. In studying our subject we must look straight to Nature herself, and there learn an object lesson. When we take a survey of some of our lovely woodland scenery in the summer and autumn months, we do not see anything of the conventional or formal type; but everything seems arranged with a delightful ease, nothing seems to clash: the colours of the flowers blend beautifully, their foliage is in perfect harmony, the fine overshadowing trees above us and the mossy ground beneath our feet, all tend to make the scene of natural wealth, which Nature so lavishly provides, one which we can enjoy and feast upon. Take again the banks of some of our rivers. The scenes at certain points are enchanting. What with the Iris, Water Lilies, and other flowers, Rushes, and river grasses, backed up by wild Dog Roses, Elders, and many other trees, we see Nature's arrangement in perfection. We get no hard pruning of the Rose, no cutting into a pyramid or round shape of the Elder, but we have them presented in their natural form with long flowing branches thickly studded with beautiful flowers. In rowing up the Thames between Caversham and Pangbourne I have often enjoyed the sight of these lovely pictures. I am fully persuaded that

those who would succeed in the artistic and effective arrangement of plants and flowers must have a love for the natural and strive to follow Nature's laws and ways. If we do this our march will be in the right direction.

I turn now to some remarks upon several items which seem foremost in my mind. First is one which concerns all of us to a more or less degree—that of plants and flowers for house decoration. The English as a nation have a love for flowers in their homes, and I advocate the greater use of plants for house decoration than is at present practised. Take a large hall and wide staircase. What a charming appearance flowers and Palms have, little groups being formed in the angles of the staircases, at the ends or in the niches of the corridors, with here and there a hanging basket of Ferns! Again, in the reception, drawing, and dining rooms plants might with advantage be more employed, always taking care that the arrangement is in harmony with the surroundings. Palms and other light feathery plants should always be used to give a light and artistic effect. The red pots in which the plants are growing should always be hidden from view, either with moss, Maidenhair or other Ferns. I cannot admire many of those brilliant coloured cachepots which we see so much in use; they detract from the appearance of the plant in my opinion. There are some lovely tints to be found in art silks which have a charming effect draped around the pots.

In dinner table decorations there is a great field for artistic persons, and I suppose more thought and attention are given to this than other branches of floral art, but there is room for much improvement.—First in the design of the epergnes employed. Those good people who design these seem to my mind in nine cases out of ten to miss their mark. They design something very handsome and in many cases chaste and artistic, and the article produced must certainly be called a work of art; but when we come to put our flowers in them we find they are defective and the whole effect is not what we could wish. The reason is, I believe, that the designer is not a floral artist, and consequently does not know what is really required to show off flowers to perfection. Epergnes in general are not made light and artistic enough. Presuming we may have obtained the ideal epergne, dressing must occupy our attention. The flowers used should be small, delicate in colour, in perfect harmony with each other, and of chaste appearance; larger flowers may be used in the base of the epergne. If Maidenhair Fern is used it should be of a pale green colour. Trails of *Smilax* are very pretty if carefully and lightly used. The *Asparagus* foliage is also charming, and can scarcely be dispensed with if we want to get the best appearance. A well dressed epergne is not to my mind often seen. It should have a fairy-like appearance whatever be the flowers used, and look as though hands had never touched it. The blending of colour and the whole balance have to be perfect to present an ideal arrangement. Having thus dealt with the epergne, which is the most important part, I will only add that the specimen glasses should be filled to correspond. When one has epergnes on the table I never advise having any flowering plants whatever, but if there is room, that attractive *Palm Cocos Weddelliana* may be employed; it is the best table *Palm* we have.

I shall probably be expected to say something about church decorations. This is a wide field and a subject that would occupy a whole afternoon if we went anything like fully into it. There not being two churches alike, it is somewhat difficult even to give a general outline of what course should be pursued. Plants in pots, to my mind, are not sufficiently used. In many cases a very formal appearance is presented, but, on the other hand I cannot agree with the elaborate use of large Palms, and placing them on the top of the pews, as is sometimes the case when decorating for a wedding. If Palms are employed it should be to form a series of arches up the central aisle from the entrance to the communion steps, a wonderful effect being thus produced. The style of the windows should influence and guide the artistic treatment of the decorator. Trails of Ivy seem indispensable. Arums never seem so much in character as when employed in decorating a church. In some churches I have seen small zinc flower holders containing water and supports for the flowers and Ferns used; these if effectively filled and hung around the choir stalls, pulpit, &c., produce a pretty effect. Ferns may be extensively used in this work, the common wild Fern *Filix-mas* seems especially adapted, although it may be a little stiff. Coloured flowers must be used with great caution, in fact scarlet is about the only one that should to any extent be employed, though harmonies in yellow are popular. Many ladies seem to have a special love for church decoration. In their hands frequently we see very pretty results, but sometimes there is a want of harmony, owing, perhaps, to the fact that one does this portion, and another that, and so on. It would be better that in these cases a harmonious plan be thought out, and all help to bring it to completion.

Leaving church decorations, I want to carry your mind away to the artistic and effective arrangement of plants and flowers at shows, and this is one of the most important parts, if not the most important part, which I have to deal with. I maintain that there is room for immense improvement. People have said to me, "I do not care to go to the flower show, there is so much sameness in it." I regret to acknowledge that there is a great amount of truth in this, but it should not be so, when we consider for one moment the inexhaustible supply we have in the varieties of plants and flowers. One of the first faults I have to find is that the compilers of schedules of shows will copy each other. Why not each try and have some amount of originality, strike out a fresh line, and get out of the old rut? "But suppose we do," someone says,

* Extracts from a lecture delivered by Mr. G. PHIPPEN at the International Earl's Court Exhibition on May 27th.

"others will follow, and then we shall soon get into the same state of sameness." All I have to say is this, keep striking out afresh, and the more that is done the more openings will be before us.

(To be continued.)



CHRYSANTHEMUM NOMENCLATURE—THE JOHN LAMBERT TEST CASE.

PERHAPS I was not quite so ignorant as might be supposed about the Alverstone case cited by Mr. Lambert. I thought he had better bring it out himself, and he has done so at last, evidently with some reluctance. I could wish for nothing better than this as a "test case" for determining the distinctness or otherwise of the variety John Lambert.

Here are the facts. Emily Dale Improved and John Lambert were staged as distinct varieties by Mr. Agate. The stand was disqualified because it contained them. Who were the Judges? Men, I venture to say, at least as competent as Mr. Lambert is, and naturally less prejudiced—namely, Mr. C. Orchard and Mr. J. Wills.

Mr. Agate, like the acute exhibitor he is, took advantage of a technical point. The judging, he pointed out, had to be conducted according to the N.C.S. catalogue of 1889, which was compiled before the supposed "new" varieties were sent out. He therefore asked the Committee for the prize, and the Judges were requested to award it to "avoid unpleasantness." The executive were told that they must do that on their own responsibility, as they (the Judges) regarded the two alleged varieties as identical.

Mr. Agate writes:—"I got the prize, but have never staged them both since on the same board."

Did Mr. Lambert know the whole facts of this solitary case, and therefore hesitate to bring it forward? He has done so, however, and burst the bubble effectively, thus aiding me in the only object I had in writing—a wish "to avoid confusion in nomenclature."

Mr. Lambert in a former issue asked why I took blooms to Chiswick from the plants grown from cuttings which he sent me instead of those from my own Golden Queens or Emily Dales. I should have thought the reason was obvious—because they were just as good as mine, and I wanted the opinions of the best growers and judges on them. These I obtained before staging, and they were unanimous against John Lambert being admitted as distinct.

In conclusion, Mr. Editor, I enclose for your inspection a letter received from Mr. Agate, and from which I have quoted in the present communication.—E. MOLYNEUX.

[Our correspondent has quoted accurately, and unless Mr. Lambert can give references to other cases where the varieties which he claims to be distinct have been staged together, and admitted by judges as dissimilar, this controversy must cease or be postponed till November.]

LOAM VERSUS TURF.

Do we not, as gardeners, use the word loam in a wrong manner, I mean more particularly as applied to potting soil? It has struck me that we do. What the general body of gardeners mean by it is the turf which is cut at various depths and used as the staple article in potting the bulk of plants. Now loam, according to the correct definition, is something different to this. It is a mixture of sand and clay, styled light or heavy, according to the excess of either of these ingredients; therefore, to be correctly called loam, both sand and clay must be present. I hardly think they are so sufficiently to justify the term employed in all potting soil, at any rate. What we, as gardeners, mean by loam is turf cut from a pasture, roadside, or the "downs," varying in thickness according to the rooting depth of the grass. In the majority, I may almost say all, instances sand and clay do not exist in the turf as thus cut for potting purposes. It is not possible, because there is simply a mass of fibrous matter, particularly in that which is considered the best for the purpose. If what I here advance is correct we ought to adopt a new name; for instance, decayed turf would be more appropriate and accurate than loam. Turf, either decayed or green, constitutes the major portion of potting soils for the bulk of plants other than those of a hardwood character, and it varies in quality so much that special means have to be employed to render it fit for meeting the wants of the plants for which we use it. Thus it may be of interest to pen a few remarks on the subject of preparing soil for potting, although reference has been made to it in previous issues of the Journal.

Turf taken from the downs is generally the least fertile, owing mainly to the subsoil being usually chalk, and that so close to the surface as to render the soil which overlies it exceedingly poor, and also from the fact that such grass land—if it can be properly termed such—hardly ever obtains any manure. For fifty years the same downs have

been covered with grass, which contains a good depth of fibre, but as poor as it possibly can be. Turf of this kind is often employed for potting purposes, and as it possesses nothing but fibre, how to make it more productive is the point I have in view. It is useless to wait until employing it for potting before we enrich it, as then there is scarcely time enough for the plants to assimilate the food from it which it ought to contain. The best method of dealing with turf of this kind is to cut it about 1½ inch thick, make it into a stack about three months before requiring it for use, and between each layer of turf spread a thin coating of cowdung. Failing this, sprinkle finely ground bones, or what is perhaps better, pure dissolved bones, not those sold as compound bones. In making up the stack give it a gentle slope towards the middle to admit of the whole heap being well soaked with liquid manure occasionally, which enriches the turf much more than is generally supposed.

Turf which is inclined to be heavy coming from soils inclining to clay should have slightly different treatment. Instead of employing cow manure substitute horse droppings, and add also wood ashes, which greatly improves heavy soils. Dissolved bones are good for this kind of turf, also adding to its fertility considerably. I consider that it is a mistake to cut and stack turf, say one year before required for potting. Much of that which is considered essential to success—the fibrous part—becomes too much decayed to be of any real service before the roots of the plants it is intended to benefit have an opportunity to take possession of it thoroughly. In my opinion all the time necessary is that which allows for the decay of the grass after being stacked to prevent its growth when in the pots or where employed.—E.

FORTUITOUS AND DEFINITE VARIATION.

I HAVE never been able to perceive satisfactorily to my own mind the distinction between definite and fortuitous variation. For the purposes of this discussion, I will assume that we all mean by definite variations those that come in such a regular order as excite no surprise to see, while fortuitous variations are those so unusual and unexpected that they seem to be influenced by some force less regular in its operation.

In my nearly half a century of studies among living plants, I have been brought face to face with what under my definition I should consider fortuitous variations. In English literature numerous instances are recorded of Nectarines pushing out from the branches of Peach trees. There can be no reason for supposing that anything in the "conditions of environment" in an English climate could operate on one Peach branch more than another; but could that be granted, we find the same event occurring in many parts of the American continent, where the conditions are so numerous varying. Purple-leaved varieties, cut-leaved varieties, entire-leaved forms of cut-leaved species, weeping varieties—the numberless forms as distinct as species, which we find in nurserymen's catalogues—spring fortuitously in the seed beds of nurserymen, among thousands of plants with the definite characters, with no intermediate connecting links, nor under any pressure from environment that anyone can conceive.

And just in the same manner do striking variations suddenly appear by bud-variation as by seeds. The curled-leaved Weeping Willow suddenly assumed this character on a tree of the ordinary kind; the Red Sweet Potato is also a bud-variation from the ordinary White variety; the double-flowered Tuberose is believed to have originated by bud-variation; most of the many beautiful forms of Bouvardia cultivated by florists have had a similar origin. Numbers of popular florists' flowers have been propagated from branches that have been cut from plants on which they had taken their sudden and remarkable departure from the normal forms. This is especially the case with Roses, a number of those in general cultivation having originated in this way. These departures are not merely relative to colour; but habit and foliage change as completely as if they were distinct forms raised from seed. Some of a dwarf weak habit, like the Tea Rose *Devoniensis*, will send out a branch of great vigour and distinct appearance, which it retains so definitely afterward that many thousands are propagated annually and sold for cultivation by florists.

It will be noted that in these cases of striking variation by single branches taking a departure from other branches, the origin must be from a single cell. And we must look even beyond the cell to the original protoplasm, and believe that the special character of all subsequent growth is an essential part of its characteristics. We can associate nothing that enters into the conception of fortuity with facts like these. Accidental as these sudden and striking variations appear to the popular mind, science would seem to look to some definite arrangement of organised protoplasm as the only force capable of bringing about the results.

I have thus briefly outlined what I regard as salient facts favouring the theories of both definite and fortuitous variation. To my mind, it would be unjust to science to ignore the existence of either one of these forces. We have not yet the remotest conception how they operate on the protoplasm forming the definite cell. They may eventually be found to be but varied manifestations of the same power. But while we are arguing on the separate nature of these two forces, it seems to me we have to concede considerable power to both, with by far the larger influence, at least to my mind, to definite variation.—THOMAS MEEHAN
State Botanist, Pennsylvania.



EVENTS OF THE WEEK.—There is a long list of Shows to be worked through during the current week. To-day (Thursday, July 14th) the Wolverhampton Floral Fête and the Royal Caledonian Horticultural Society's Exhibition conclude. Rose Shows are being held at Harleston and Helensburgh. On Saturday, the 16th, the National Rose Society's Provincial Show will be held at Chester, and on the same day there will be an Exhibition of Roses at Charlton. On Monday, the 18th, Nuncaton Flower Show will be held. On Tuesday, the 19th, there will be a Rose Show at Moseley, Birmingham, also at Tibshelf; the former being continued on the following day. Eyc Flower Show will also be held on that date. On Wednesday, the 20th, Christleton Rose Show takes place, while on Thursday, the 21st, there are Shows at Trentham, Worksop, and Aylesbury.

— **THE WEATHER IN LONDON.**—Fine weather has prevailed on the whole during the past week, although there were a few light local showers on the 9th. The 10th was warm, although not sunny in the early part of the day. On the 12th the weather became dull and much colder, and rain fell steadily, though not heavily, for several hours. At the time of going to press the barometer is still depressed and the wind in the south and south-west. Showers are expected.

— **THE NEW CLASSIFICATION OF ROSE EXHIBITORS.**—It was a pleasure to find so many new exhibitors at the Crystal Palace on July 2nd. The Show was worthy of a Society calling itself National, for there were growers of all ranks in competition. Mr. Bateman, Mr. Grahame, and others who agitated so long for reform must have felt on good terms with themselves, and may fairly lay claim to the credit of having made the Society more popular than of yore. To go back to the old order of things now seems as impossible as it is undesirable. —NOVA.

— **INTERNATIONAL HORTICULTURAL EXHIBITION.**—Very complete arrangements have been made to protect the buildings from fire. Large high pressure mains run through the principal galleries, the theatre, lecture hall, &c., to which are connected twenty fire stations with standpost hydrants, hose, hand-pumps, and buckets. Small fire engines are also distributed through the buildings. These arrangements, as in previous exhibitions, have been carried out by Messrs. Shand, Mason and Co., who also exhibit steam and manual fire engines and other appliances. Superintendent Duck is in charge of an efficient fire brigade composed of men who have served in the Metropolitan Fire Brigade.

— **THE OXFORD CARNATION AND PICOTEE UNION.**—The annual Exhibition of the above will take place as usual in Mr. E. S. Dodwell's garden, in the Stanley Road, Oxford, on Tuesday, August 2nd. It was the desire of Mr. Dodwell to hold it on the 28th inst., so as not to clash with the Carnation Show at Earl's Court on August 1st and two following days; but as the midland growers have made a strong representation in favour of August 2nd in preference to the earlier date, Mr. Dodwell has given way. Generally there appears to be a promise of a fine head of bloom this season.

— **PINK ERNEST LADHAMS.**—This is a charming addition to an already large number of varieties, and being a seedling it is all the more valuable. The growth is exceptionally free, while the flowers, which are fringed, are produced in great profusion and contain much perfume. The colour is blush pink with a dark centre. At the late Rose Show held in Winchester a first class certificate was awarded by the Judges to this deserving novelty.—E. MOLYNEUX.

— **LOBELIA MAID OF MORAY.**—At the late Show held at Weybridge Mr. Puttock, nurseryman, Kingston-on-Thames, exhibited a charming Lobelia named Maid of Moray. The habit is dwarf—without being too much so—and compact. The centre or eye of the flower is pure white, with a clear light blue margin. It is without doubt a striking novelty, and should prove most useful in the flower garden. As a rule light blue Lobelias are somewhat straggling in growth, but the above is the reverse of this.—E. MOLYNEUX.

— **ROYAL COUNTIES AGRICULTURAL SOCIETY.**—The meeting of this Society at Redhill, for which great preparations have been made, is being held this week. It was opened on Tuesday and closes on Friday.

— **PINK, ROSE QUEEN.**—Messrs. Clibran & Son are sending out an attractive new Pink named Rose Queen that is likely to prove valuable either for the border or for forcing. It is dwarf, free, pleasing in colour, which is a rosy lilac shade, and fragrant.

— **COCCOLOBA PLATYCLADA.**—In a collection of table plants at Croydon Show Mr. C. Lane had a plant marked "Fern seedling," which proved to be *Coecoloba platyclada*. It had come up with a number of seedling Ferns. Its peculiar leafage is rather ornamental.

— **CYPERUS ALTERNIFOLIUS VARIEGATUS.**—I noticed a plant of this at Croydon Show that might almost be termed an albino, the majority of the leaves having only a faint edge of green. A long chapter could be written on the degrees of variation in variegated plants. —N.

— **PENTSTEMON PUBESCENS.**—This, one of the hardy Pentstemons is a free, attractive, and hardy species. The tube is purplish mauve and the lip pure white. It grows about 2 feet high, and is worth a place in hardy flower borders. Messrs. Cheal & Son have been showing it of late.

— **POLEMONIUM HIMALAICUM.**—I observed a Polemonium in a mixed collection of hardy flowers at a recent show under the name of himalaicum. It appeared to be identical with *P. Richardsoni*, and I can find no authority for the name. Perhaps some of your hardy flower-loving readers know something about it.—E. H. M.

— **MR. E. B. LINDSELL.**—Many rosarians were glad to see the leading amateur exhibitor at the Crystal Palace apparently well on the road to recovery from his severe illness. He does not look quite so bright and fresh as his Roses yet, but his hand has not lost any of its cunning with them, as many have found to their cost.

— **GARDENERS' ORPHAN FUND.**—A Rose fair was held on behalf of the Gardeners' Orphan Fund at the Croydon Horticultural Society's Exhibition on Wednesday week, and we are pleased to know that the sum of £8 6s. 6d. was realised from the sale of Roses for the charity. Mrs. Dart and Mrs. Gunner again kindly presided at the Rose fair.

— **LEICESTER AND MIDLAND CHRYSANTHEMUM SOCIETY.**—The Committee have decided to hold a small Show of early flowering Chrysanthemums and Dahlias on September 10th. As Dahlias are grown in quantity around Leicester it is anticipated that a very good display will be the result, and should it prove a success it will be repeated on a much larger scale another year.

— **THE WEATHER AT RIPLEY, YORKS, DURING JUNE.**—This was a dull, wet month, also cold, with the exception of four days, from 6th to 9th inclusive. On these days it was oppressively hot, and on the last mentioned date there was two cases of sunstroke in this district. The highest maximum temperature (shade) was 85° on the 9th, the lowest minimum temperature 30° on 18th. Total rainfall 3.87 inches, of which 1 inch fell during the night of the 28th. Rain fell upon twenty days. Mean reading of barometer 30.01. Mean maximum temperature 65.3°, mean minimum temperature 40.1°. Mean temperature 52.7°. Thunder was prevalent during the month. The total rainfall for the half year ending June 30th was 13.80 inches, which fell upon 112 days.—J. TUNNINGTON, *Ripley Castle Gardens*.

— **NATIONAL CHRYSANTHEMUM SOCIETY'S ANNUAL PICNIC.**—The annual picnic and outing will, by the kind permission of the Right Hon. The Lord De L'Isle, take the form of a visit to Penshurst Castle, Kent, which is rich in interesting historical associations. The gardens and grounds will be open to inspection, together with the state apartments. The Castle and grounds are two miles from Penshurst, along a pleasant and shady road. About half-way is Redleaf, the residence of F. Ernest Hills, Esq., a place renowned for its beauty and high culture, and permission has been given by Mr. Hills for the party to walk through the grounds of Redleaf, leaving them at a point close to the Castle Park, through which the party can reach the hotel. The date fixed for the picnic is Friday, July 22nd, leaving Charing Cross at 9.28 A.M. Particulars may be had from Mr. R. Dean, Ealing, W.

— **SHEFFIELD SHOWS.**—The second summer Show of the Sheffield, Hallamshire, and West Riding United Chrysanthemum Society will be held at the Museum, Orchard Street, Sheffield, on August 29th and 30th. There are classes both for professionals and amateurs. The Chrysanthemum Show is to be held in the Corn Exchange on November 11th and 12th.

— **GARDENING APPOINTMENTS.**—Mr. H. Godfrey, for the past thirty years gardener to the late H. C. Rothery, Esq., Ribsden Hill, Windlesham, Bagshot, Surrey, has been appointed gardener to — Fisher, Esq., The Grove, Streatham. Mr. Chas. Prior has succeeded Mr. Jas. Merry as head gardener to G. M. Medely, Esq., Winsford Tower, Beaworthy, Devon.

— **ROYAL BOTANIC SOCIETY'S EVENING FETE.**—Cold and stormy weather sadly militated against the success of this fête, which was held on the evening of July 6th. The grounds had been beautifully illuminated, but a great number of the lights were blown out. There was a very large attendance, and, with good music and attractive floral decorations, there was no lack of pleasant features.

— **HORTICULTURE IN PARLIAMENT.**—The new Members of Parliament comprise several who take a keen interest in horticulture, and are capable of forming practical opinions on any questions that may arise respecting it in the House of Commons. To avoid introducing a partisan element two are mentioned representing opposite sides, Sir Jas. Whitehead, Bart., and Mr. W. H. Myers of Swanmore. Both are in all respects worthy additions to the great assembly.

— **THE WEATHER LAST MONTH.**—June was warm and bright up to the 10th, but changeable after, with some very cold nights, and a sharp frost on the morning of the 15th, which cut Potatoes, Kidney Beans, Heliotrope, Dahlias, and other tender plants rather severely. On the night of the 30th also the minimum temperature was very low—viz., 37°. Barometer highest, 30.47 at 9 A.M. on the 8th; lowest, 29.60 at 9 A.M. on the 23rd. Total rainfall, 2.25 inches, which fell on sixteen days; the greatest daily fall being 0.81 on the 10th. Highest shade temperature, 82° on the 10th; lowest, 32° on the 15th; lowest on grass, 28° on the 15th. Mean of daily maximum readings, 67.30°; mean of daily minimum, 45.26°; mean temperature of the month, 56.28°. The wind was in a westerly direction twenty-one days. We had thirteen bright days, one of which was clear. The garden spring ran 20 gallons per minute on the 30th.—W. H. DIVERS, *Ketton Hall Gardens, Stamford.*

— **SUMMARY OF METEOROLOGICAL OBSERVATIONS AT HODSOCK PRIORY, WORKSOP, NOTTS, for June.**—Mean temperature of month, 55.1°. Maximum on the 9th, 80.2°; minimum on 15th, 34.2°. Maximum in the sun on the 26th, 130.1°; minimum on the grass on the 15th, 28°. Mean temperature of the air at 9 A.M., 57.6°. Mean temperature of soil 1 foot deep, 56.8°. Nights below 32°—in shade, none; on grass, six. Total duration of sunshine in month, 186 hours, or 37 per cent. of possible duration. Total rainfall, 3.26 inches. Maximum fall in twenty-four hours on the 28th, 1.32 inch. Rain fell on eighteen days. Average velocity of wind, 7.5 miles per hour. Velocity exceeded 400 miles on one day and fell short of 100 miles on nine days. Approximate averages for June:—Mean temperature, 57.4°. Sunshine, 157 hours. Rainfall, 2.01 inches. A cool and showery but rather sunny month. The rainfall would have been normal but for the heavy fall on the night of the 28th, accompanied by a sharp thunderstorm. Everything has grown fast and the country looks very well.—J. MALLENDER.

— **PROGRESS IN BEGONIAS.**—I observe Mr. Gumbleton's remarks on page 9 respecting my article on Progress in Begonias. He is in error in charging me with inaccuracy in my reference to Laing's Picotee. Read, as it ought to, in relation to the context, the remark that it stood alone of its class is perfectly correct. I was then (to quote from my article) making "direct reference to the magnificent collection" at Forest Hill, and there Laing's Picotee reigns unique and supreme. I by no means stated that it was the only one in existence, as he implies, for I knew from a statement by Mr. Laing, junior, that it was not. Nor is he more correct in stating that I led my readers to suppose that all the varieties mentioned were raised at Stanstead Park Nursery by Mr. Laing. On the contrary, I was most careful to guard against doing so. Messrs. Laing & Son have done too much to require crediting with other people's work. I regret very much that no opportunity has yet presented itself of responding to the kind invitation, more than once repeated, to visit Belgrove. Judging from what I have heard and read of its treasures, no one could visit Mr. Gumbleton's garden without benefit.—W. P. W.

— **CALLA ELLIOTTIANA.**—I merely inferred that Calla Elliottiana was a hybrid between C. hastata and C. aethiopica from its spotted foliage being the same as that of the first-named species and the shape of the flower spathe about midway between that of both sorts. When seedlings bloom if they come true to name the question should be settled one way or the other. Could not "W. W." ask Mr. Elliot's gardener whence he got it, and let us know his answer?—BOSCOBEL.

— **THE RIVAL SOCIETIES AT BRIGHTON.**—We are informed that the struggle between the two horticultural societies at Brighton has come to an end, the fixtures of the Brighton and Sussex Horticultural and Floricultural Association, of which Mr. E. Carpenter was Secretary, having all been cancelled. The Show of the Brighton and Sussex New Horticultural and Mutual Improvement Society will be held as arranged on August 30th and 31st, and the Brighton and Hove Chrysanthemum Show on November 1st and 2nd.

— **CERTIFICATES AT THE INTERNATIONAL HORTICULTURAL EXHIBITION.**—At the Show held on July 5th and 6th first-class certificates were granted to Messrs. F. Sander & Co., St. Albans, for Cattleya Schofieldiana variety; C. Amesiae, C. Leopoldi var. Lauchiana, and Mormodes pardinum; Odontoglossum vexillarium vars. International, W. Lauche, leucoglossum, H. E. Milner, Duke of Sutherland, Harry Turner, John Jaques, and Duchess of Sutherland; Vanda Hookeriana, and V. Sanderiana; to Messrs. Kelway & Son, Langport, for Delphiniums James Kelway and Uta; to Messrs. B. S. Williams and Son, Upper Holloway, for Ailamanda Williamsi and Nepenthes Burkei; to Mr. W. Allan, gardener to Lord Suffield, Gunton Park, Norwich, for Strawberry Gun on Park; to Messrs. John Laing & Sons, Forest Hill, for Tuberous Begonias Glory of Stanstead, Lady Foley, Jeanne d'Arc, Laing's Golden Dwarf, W. Clifford, Mrs. Blundell Maple, and foliage Begonia Valentine Denize; T. S. Ware, Tottenham, for Begonias Henshaw Russell, Princess May, Pico'ee, and Bexley Gem, also Lilium dalmaticum, L. maritimum, and Achillea The Pearl.

— **AN EX-GARDENER MEMBER OF PARLIAMENT.**—The newly elected member for North Lambeth, Mr. Alderman Coldwells, J.P., is an ex-gardener, hailing from Stoke Newington. When a lad he was a member of the Gardeners' Society there, and attended meetings and took part in the essays read and discussions there. Mr. Coldwells has served as head gardener in Essex, Middlesex, and Surrey, his last place in that capacity being gardener to the late Colonel Morse Robinson, Birdhurst, Croydon. He has been an exhibitor at and a judge at flower shows, and subsequently became manager of the Croydon Irrigation Farm under the Croydon Corporation. He was afterwards elected a member of the Croydon Local Board, and one of the first members of the Croydon School Board. Since being made a corporate town he was elected a Town Councillor, and subsequently an Alderman, as a reward for the exertions he displayed in trying to bring about the incorporation. He was soon after made a J.P. He is now managing director of a company owning a large tract of reclaimed land at Bembridge, Isle of Wight, with a railway and steamboats running in connection with the place. A portrait of Mr. Alderman Coldwells, M.P., appeared in the *Journal* on August 16th, 1888.

— **MINIATURE VIOLAS.**—Mr. George Steel sends a box of Viola blooms which may be said to form a new section. We understand that they are the result of a series of crosses by Mr. Steel and Dr. Stewart of Chirnside, which have been in progress for a considerable time past. The flowers are extremely attractive; they are much smaller than the ordinary type, and the habit of the plants is very dwarf and compact. There are probably very few persons who will not concede their right to be classed as a new and distinct type, while the flowers are so bright, fragrant, and charming in every way that they are certain to become very popular. Mr. Steel thinks that "they hold a position to the ordinary type similar to that between the Pompon and Show Dahlias." The suggestion is a happy one. The varieties received are Violetta (Stuart), white, yellow centre, very sweet; Mrs. Joseph Oliver (Steel), nearly pure white, fragrant, very dwarf; Ophir (Stuart), yellow, highly perfumed; Jeannie Turnbull (Steel), lavender, very beautiful and sweet; Mrs. George Finlay (Steel) pale yellow, upper petals shaded white, fragrant; Mrs. Stephens (Steel), white, edged with lilac, yellow centre, sweet; White Lady (Stuart), creamy white, sweet; Beauty of Heatherlaw (Steel), rich yellow; and Maggie Steel (Steel), primrose, very fragrant. We hope to see and hear more of these. Mr. Steel also sends two new varieties of the ordinary type:—Sylvia (Stuart), creamy white, good form; and Border Maid (Steel) yellow, edged violet, which might be termed a yellow Skylark.

— PEACH YELLOWS.—In the Report of Mr. B. T. Galloway, Chief of the Division of Vegetable Pathology to the United States Department of Agriculture, we find among much other interesting matter the following:—"Since my last report a bulletin has been published on Peach yellows. There are given in this bulletin the results obtained up to date by means of bud inoculations and excisions. The experiments were made with the greatest care; they cover a period of years, and were repeated several times, so that the final results might be depended upon. The conclusions from the work are as follows: (1) The disease is contagious, and may be conveyed by healthy-looking buds when these are taken from partly diseased trees. (2) Only a small amount of infectious material is necessary to produce the disease, provided it is in the form of living cells which can be induced to unite with the actively growing tissues of the inoculated tree. In some cases the disease has a period of incubation extending over two years, and the probabilities are that additional experiments will demonstrate in some cases a still longer period. Many hundred experiments have proved these conclusions to be correct. (3) The life of inoculated trees varies from one and one-half to four and one-half years. In orchards the death of the entire tree occurs in from one to six years. In a majority of cases the disease is chronic, and some part of the tree may live for a long time."

— AN UNUSUAL OCCURRENCE.—Just before midnight last Saturday Mr. Cannell's time-bell rang out vehemently. All those who were up were soon followed by many who had retired to rest to ascertain what was the matter; some concluding that part of the nursery was on fire. On entering the gates Mr. Cannell's Cacti-grower called out, "Wait a while, and I will show it to you." They thought he had been hoaxing them, for they were not aware that Mr. Cannell had given orders that the next time the Night-blooming Cactus, *Cereus nycticalus*, was in flower all the employes should see it, because on a former occasion the opportunity was lost, and only a drooping and fast-fading flower was to be seen on the following morning. Mr. Gough, after attentively watching for two hours, observed it beginning to open its petals, and when nearly at its best he concluded the best and quickest way to give notice of the event and draw attention, so that as many as possible could enjoy its beauty, was to tug away at the dinner-bell, and of course he soon had a crowd around him to view this wonderful nocturnal disturber. There was no mistaking its beauty—lovely pearly white petals with long-pointed outer florets tinted brown; this, together with the great number of stamens in the centre of the flower, gave it a striking appearance. After thoroughly inspecting this wonderful flower the crowd hurried homewards to bed, highly pleased with their floral treat. The variety, together with several others, may be grown in the stove or warm greenhouse trained against the walls, will not take up much room, and does not require much attention.

— MISS JOLIFFE CARNATION.—Where Carnations are appreciated the improved form of this variety should certainly be grown in quantity for flowering under glass during the spring months of the year, in fact it will continue to flower until Carnations are plentiful outside. If sufficient stock has not been obtained, and this is often the case where a few plants have been obtained to commence with, plants that have practically done flowering may be utilised for that purpose. They may be turned out of their pots and the old balls laid amongst light soil, so that the growths lie close upon the ground. The plants will soon commence fresh root activity providing the soil is kept moist. The grass can be layered in the ordinary way, and when the young plants are well rooted they should be potted singly into 3-inch pots. These can remain outside until the approach of frost, when they should be removed to cold frames for the winter. The stock in spring should be divided into two parts, one for growing in pots, and the other for planting out for stock again. The object is to be independent of spring-striking in heat. The remaining portion of the batch should be placed into 5-inch pots, and stood outside on beds of ashes. Once they begin to grow flower stems will show themselves, and if removed bushy plants for winter and spring flowering will be the result. The strongest of the plants may be placed into 7-inch pots, and from these a large quantity of flowers will be produced. A good compost for these plants is fibry loam three parts to one of sand, leaf soil, and manure in a decomposed condition. The soil at the last potting should be pressed firmly into the pots, so that sturdy growth will be made. Strong stimulants must be avoided, for the Carnation will not do well if these are applied. The syringe should be used to keep the plants free from red spider, and aphides must not be allowed to become established upon them.—A GROWER.

— PEAS AT CHISWICK.—The first inspection of the Pea trials at Chiswick by the Fruit Committee of the Royal Horticultural Society took place on Thursday afternoon last week. There was a good attendance of members, including M. Henry de Vilmorin, who was heartily welcomed. The Peas, though generally very fair, are not so robust generally as last year, owing to the lightness and dryness of the soil; earlier in the summer some, however, were very good. The Committee were very early in the inspection attracted to Duke of Albany, which was podding finely and freely, and found in that excellent and popular variety a good standard on which to proceed in selecting the best varieties. It was difficult to find any Pea that excelled Duke of Albany in general excellence. In addition to that variety, Essential, medium tall Pea, good cropper, carrying shortish stubby green pods, peas of good flavour; Duke of Rutland, 5 feet high, capital cropper, rather straight pods, sweetish peas and fair flavour; Boston Hero, a tall later form of Duke of Albany; Consummate, dwarf, fine green, partly curved pod, a capital midseason Pea; Renown, a sturdy, fine cropping Marrow; The Echo, a robust growing dwarf Pea, fine pod and free cropper; Alderman, a 6-foot Pea, a great cropper, fine straight pod, peas sweet and of excellent quality; and Duke of York, a new and distinctly dwarf form of Duke of Albany, height about 3½ feet, and reputed to be several days earlier in podding, were good. These all received the full number of marks equivalent to the granting of certificates of merit. Many of the later varieties, whilst very promising, yet wanted to be seen again later. So good now are our best Peas that the Committee find it very hard indeed to detect special qualities in new ones that merit commendation.

— BEDDING BEGONIAS.—There are some novelties in this class of plants being tested at Chiswick this season the which should attract attention. One large bed is filled with those hybrid forms that have fibrous roots and are freely propagated by cuttings, of which Princess Beatrice is now a well-known type. These come from Messrs. Sutton & Sons, Reading. They seem, both in colour of flowers and in habit, to present bedding plant elements which should make them eventually very popular. Then close by, in two or three smaller beds, are varieties sent to the gardens by Messrs. Vilmorin & Co. of Paris. These seem to be the dwarfiest and most profuse blooming of all the tuberous-rooted forms, and belong to a section known in France as *multiflora erecta*. Some of the varieties, notably pink, scarlet, carmine, and yellow doubles, are now blooming profusely at from 6 to 8 inches high. The flowers, though below what we should call medium size, are very double and of good form. They are, if not absolutely erect, at least much more so than are those of the ordinary English varieties, and seem to present the most effective miniature bedding Begonias we have seen. Some are very early, others later, but M. de Vilmorin mentioned when at Chiswick the other day that these early forms bloomed continuously until cut down by frost. There are single dwarf erect varieties also in other beds, but these are evidently more robust and later in blooming. So evident is it that the Begonia is in for a long period of popularity as a bedding plant, that we cordially welcome any varieties which will serve to enhance that popularity and at the same time give such variation in habit and effect as shall draw general attention to what is one of the most beautiful of garden flowers. The new varieties at Chiswick will, no doubt, secure much notice during the present summer.—A. D.

CARNATIONS ATTACKED BY HYLEMYIA GRUBS.

IN your report of the meeting of the Royal Horticultural Society of June 21st you alluded to Mr. McLachlan's observations in regard to this insect at the Scientific Committee, and as the subject is one of considerable importance to the cultivators of the Carnation and Picotee I again draw attention to what you then wrote. "The grubs lived beneath the rosette of leaves forming the crown of the plant, and also bored into the stem below the crown. The perfect female insect having been now obtained for the first time it proves to be *Hylemyia nigrescens*, Rnd., allied to *H. Cardui*, which feeds in the flower heads of Thistles. He (Mr. McLachlan) suggests hand-picking as soon as symptoms of flagging is seen in the Carnation."

The ravages of this insect came under my notice last year, and in collections about Birmingham the grub is at work again this year, but as our growers keep a sharp look out for it no great amount of damage is done. To cultivators unaware of its existence much annoyance and loss may be avoided by at once closely examining their plants.

The grub is, no doubt, the result of an egg inserted into the stem or grass of the plant, but the earliest stage of the operations of the grub is to be seen about the early part of June, and any symptoms of decay in the main or lateral stems of the plant should be examined, when a very small yellow grub will be found, changing to a nut brown colour as it gets older, eating out the heart of the stem, but it cannot be seen until

the attacked part is cut away and examined. It also attacks the young foliage and eats its way into the "grass" (young leafshoots at the base of the plants), and any indication of curling or decay should lead to immediate examination. The grub ultimately turns to a small brown chrysalis about a quarter of an inch long.

Mr. Herbert, a well known successful cultivator, and manager of Messrs. Thomson's nurseries at Sparkhill, has tried various remedies in the shape of insecticides, but all are of no avail. The only remedy is frequently and closely searching, examining, and hand-picking. I notice that in the last number of the "American Florist" there is a paragraph stating that much harm has been done to the Carnation and Picotee in England by this grub. I have not heard of any great amount of mischief yet, and if there has been it must have arisen from a want of knowing how to deal with the pest.—W. D.

HORTICULTURAL SHOWS

WARE.—JULY 7TH.

THE first summer Show held in connection with the Horticultural Mutual Improvement Society was held on the 7th inst. in the grounds of R. Walters, Esq., The Priory, and was considered in every way to be a thorough success. Classes were provided for amateurs and cottagers, also open classes for general competition.

Plants were a good feature. In the class for groups arranged for effect Mr. G. Fulford, gardener to R. Walters, Esq., Ware, was clearly ahead with a group especially rich in *Dracaenas*, *Caladiums*, *Anthuriums*, and *Palms*, *Gloxinias* forming the chief of the flowering plants. Mr. E. Collins, gardener to S. Gray, Esq., Ware, came second with a lot of well grown plants. The *Begonias*, *Marantas*, *Zonal Pelargoniums*, and *Coleuses* were very good, but the arrangement was a trifle too formal. For six stove and greenhouse plants Mr. F. Gull, gardener to J. W. French, Esq., Amwell, took leading honours, showing a very handsome specimen of *Crinum capense alba*. Four Ferns, distinct, found Mr. R. Dover, gardener to R. Barclay, Esq., Hoddesden, to the fore, closely pressed by Mr. F. Gull. Tuberous *Begonias* were well shown, and the competition keen, Messrs. Gull, Fulford, and Twicken, gardener to E. Chaplin, Esq., Amwell, taking the prizes in the order named. For a flowering specimen plant Mr. R. Dover secured first honours; second Mr. Gull. With a specimen foliage plant Mr. W. Pavcy, gardener to H. Taylor, Esq., was first, and Mr. Dover second.

The cut flower section was quite a feature, especially the stove and greenhouse flowers. For twenty-four Roses in not less than twelve varieties, Mr. G. Fulford was first with very fresh blooms, though a trifle small, which seemed the case in the whole of the classes; second, Mr. R. Dover; third, Mr. C. Cox, gardener to Colonel Trotter, Brickendon Grange. In the twelve the competition was better, Mr. G. Fulford again leading, followed by Messrs. Dover and C. Rogers, gardener to J. Benningfield, Esq., St. Margarets. Teas were very even and fresh, though, like the hybrids, rather small. Mr. J. Turk was first, followed by Messrs. Fulford and Pavcy in the order named. In the class for twelve bunches of stove or greenhouse flowers, distinct, Mr. R. Dover, who was first, exhibited *Epidendrum vitellinum*, *Vanda tricolor*, *Malmaison Carnations*, *Eucharis*, and *Thunia Marshalli*; second, Mr. G. Fulford; third, Mr. J. Turk. In the hardy section, Mr. J. Turk was easily ahead with a choice selection, followed by Messrs. Twicken and C. Rogers. With a hand bouquet, Mr. Phillips, gardener to Rev. E. E. W. Kirkby, was the only one to enter.

Fruit was not largely shown, but the quality was excellent. Black Grapes found Mr. Gull leading; white, ditto, Mr. R. Dover first; second, Mr. F. Gull. For a collection of fruit Mr. G. Fulford was first with fine *Madresfield Court* and *Buckland Sweetwater Grapes* and *Nectarines*, good; Messrs. Pavcy & Collins taking the other prizes. Melons were rather small, but appeared to be of good quality. First, Mr. Dover; second, Mr. J. Turk. Strawberries were excellent, the prizes being taken by Messrs. Pavcy, Bray, and Collins. Competition in the vegetable classes was not so keen as expected. Amateurs' classes were not well filled, though the quality of their exhibits was satisfactory. The cottagers turned out in true Hertfordshire fashion with quality as well as quantity.

Trade exhibits materially assisted the Exhibition. Messrs. Paul and Son, Cheshunt, had a good collection of Roses. Francis Bros. of Hertford also exhibited a very fine lot of Roses; J. Chapman, Nurseries, Ware, staged a choice collection of stove and greenhouse plants, which were much admired. Palms and decorative plants were sent by Mr. Alexander, gardener to E. S. Hanbury, Esq., Poles, Ware. Mr. D. Bray staged some grand Raspberries called *Hornet*; the sprays were laden with magnificent fruits. The Exhibition was well attended, and we hope will result in a financial success.

CHERTSEY, WALTON, WEYBRIDGE, AND DISTRICT.—JULY 7TH.

THE Exhibition this year was held at The Hollies, Weybridge, a place in every way thoroughly suited for the purpose. The Exhibition was conceded to be the best yet held by this Society, which has been in existence twenty-six years. The exhibits all round showed superior skill; indeed, there was nothing in the whole Exhibition which could be classed as moderate. The arrangements were all that could be desired, and reflected credit upon the Secretary, Mr. T. J. Rawlings, who has served the Society unremittingly since its foundation.

Plants occupied the major portion of the Show, and were arranged in one large tent, except the groups for effect, which had a tent to

themselves. The most important class was that for eight miscellaneous plants, not less than four to be in flower. Mr. J. Reeves, gardener to General Annesley, Templemeire, Oatlands Park, was an easy first, staging capital specimens of *Statice profusa*, *Stephanotis floribunda*, *Bougainvillea glabra*, and *Cycas revoluta*. Mr. J. W. Reed, gardener to E. Pettit, Esq., Oatlands Park, was a good second. The last-named took premier honours in the class for six stove or greenhouse specimens, and in another class for four Mr. G. J. Cook, gardener to J. S. Sassoon, Esq., Walton, was the most successful; Mr. J. Reeves being second, both staging meritorious exhibits. Mr. J. W. Reed won first honours for six foliage plants; Mr. J. Reeves being accorded a similar honour for four specimens, also for one specimen stove or greenhouse flowering plant with *Bougainvillea glabra* in good condition. Ferns, both exotic and hardy kinds, were staged in capital condition. In the former class Mr. G. J. Cook was the most successful, followed by Mr. J. W. Reed. In the latter section Mr. A. Millican, gardener to H. Cobbett, Esq., Ongar Hill House, Addlestone, won first place, both staging well.

Gloxinias were exceptionally well shown in the classes for six and four plants by Mr. W. Stedman, gardener to Miss Verity, Moorcroft, Weybridge, and by Mr. W. C. Pagram, gardener to A. F. Hobhouse, Esq., Weybridge, who took the prizes in the order named. Tuberous *Begonias* added much to the beauty of the Exhibition, so numerous were they staged and so good in quality. For six Mr. Stedman was well ahead, Mr. Pagram coming second, while Mr. G. Carpenter, gardener to Major Collis Brown, Broad Oaks, Byfleet, occupied the post of honour in the class for four plants. *Fuchsias* were remarkably good, the plants being loosely trained and freely flowered. Messrs. J. Peed, J. Reeves, and J. Thorne (gardener to A. E. Flood, Esq., The Bush, Walton) were the prizewinners. *Caladiums*, *Pelargoniums* and *Achimenes* were well represented in their various classes by Messrs. Reeves and C. Gardener, gardener to R. H. Turner, Esq., Walton.

As before stated groups of miscellaneous plants arranged for effect were a great feature of the Show. With those 14 feet by 7 feet there were four competitors. Mr. G. J. Cook was a somewhat easy first, the plants being well chosen and lightly disposed. Mr. J. Reeves followed, some of his plants, *Caladiums* especially, being a little crowded. Mr. J. W. Reed was third. In the smaller class, 10 feet by 5 feet, Mr. Carpenter occupied the leading place, Canterbury Bells at the back and light blue *Lobelias* at the margin being arranged with telling effect. Mr. A. Millican was a close second; Mr. F. Hopkins, gardener to Miss Wodderspoon, Walton-on-Thames, third.

Cut flowers were the centre of attraction in one tent. For the best centre stand, flowers and fruit, for dinner table decoration, Mr. A. Millican was decidedly first with an effective arrangement, and Mr. J. Reeves second. In the class for the best floral ornament for the drawing-room (ladies only) Mrs. Osman, Ottershaw Park, was an easy first, and Mrs. Reeves second. Mr. F. Hopkins had the best bouquet. Roses were staged in large numbers and of good quality. Mr. Edward Rutter, Shepperton, succeeded in winning the premier award for twenty-four varieties, single trusses, Mr. W. Taylor, Osborn Nursery, Hampton, Middlesex, being second. Mr. G. Carpenter won with twelve varieties, single trusses, staging well. Limited space, however, forbids giving the names of the varieties. Herbaceous flowers made a large display. The principal prizes were carried off by Messrs. M. C. Pagram and H. Jacques, gardener to Miss Penny, The Almshouses, Chertsey.

Fruit, although not staged in great quantities, was good in quality. The best collection of six varieties came from Mr. Osman, gardener to L. J. Baker, Esq., Ottershaw Park, Black Hamburgh and Muscat of Alexandria Grapes, Al Melon, and Grosse Mignonne Peaches being in good condition. Mr. Osman took leading honours also for two bunches of black Grapes with well finished examples of Black Hamburgh, and for two bunches of white Grapes, staging Buckland Sweetwater. Mr. J. Reeves followed in both classes. Mr. Jacques had the best scarlet Melon, a splendid specimen of *Empress*, also the best green-flesh. Mr. J. Swann, gardener to G. Murray Smith, Esq., Brackley Lodge, Weybridge, staged the best Peaches, *Noblesse*; Mr. Carpenter the finest *Nectarines*, Lord Napier, and Strawberries Sir J. Paxton.

Classes were freely provided for vegetables, the competition in most cases being keen and the exhibits commendable. For a collection of eight varieties Mr. J. W. Reed was an easy first, and Mr. F. Hopkins second.

Messrs. Peed & Son had a fine collection of flowering and foliage plants "not for competition." Mr. G. Jackman had large boxes of Roses, containing the leading varieties in capital condition.

LEE, BLACKHEATH, AND LEWISHAM.

JULY 7TH AND 8TH.

THE twenty-fifth annual Exhibition of the Lee, Blackheath, and Lewisham Horticultural Society was held in the grounds of The Cedars, Lee, on July 7th and 8th, and fully maintained the reputation it has hitherto had. The exhibits, as a whole, were quite up to their usual standard, and being arranged in four spacious marquees made a bright display. Most of the classes were well filled, and in some instances the competition was quite keen. Greenhouse and stove plants were most conspicuous, although hardy flowers and fruit and vegetables were fairly numerous, while the cottagers' and children's exhibits excited much interest. The names of the principal prizewinners in the gardeners' classes are embodied in the following notes.

Specimen plants were excellent. For six foliage plants Mr. J. Mullins, gardener to W. Strange, Esq., Lee Terrace, was first, and Mr.

J. Lambert, gardener to W. H. Sezelycke, Esq., Herne Hill, second. These were the only competitors in this class. Mr. Mullins also secured first honours for four stove or greenhouse plants in flower. Mr. C. Nunn, gardener to J. Soames, Esq., Maze Hill, Greenwich, was a close second; and Mr. W. Jeffery, gardener to Mrs. Crundwell, The Moat, Eltham, third. Mr. Nunn showed the best single specimen in flower, *Stephanotis floribunda*, and Mr. Mullins the best plant out of flower, a Palm. Messrs. Lambert, Rhoden, and Kelwar were also prizewinners in these classes. Caladiums were also good. Mr. W. Payne, gardener to W. C. Dabel, Esq., Eastcombe Villa, Blackheath, was first for four plants, followed by Mr. F. Newnham, gardener to J. Ashton, Esq., Bryan House, Blackheath, and Mr. W. Jeffery, Eltham. The last named exhibitor was first, however, with twelve stove or greenhouse plants, and Mr. C. Nunn was second. The third competitor was disqualified. Mr. Nunn was first for six Caladiums, showing grand specimens, and Mr. F. Fox, gardener to Mrs. Penn, The Cedars, Lee, was second, the third prize going to Mr. T. Aley, gardener to R. Kersey, Esq., High Road, Lee.

Fuchsias were well shown by Mr. Jeffery and Mr. C. Saville, gardener to J. Murray Wilson, Esq., Lee Terrace, both of whom had pyramids. Mr. Jeffery was also first for four foliage plants, showing *Croton Queen Victoria*, *Latania borbonica*, *Kentia Belmoreana*, and *Alocasia macrorrhiza variegata*. Mr. J. Cooke, gardener to W. C. C. Parke, Esq., Hither Green, Lewisham, and Mr. Rhoden, Blackheath Park, were second and third. Mr. Cook was first for standard Fuchsias. Exotic Ferns were also good. Mr. Rhoden was first for six and Mr. J. Mullins second. Mr. J. Lambert had the best four Ferns, which included a fine *Adiantum farleyense*. The second prize fell to Mr. W. Jeffery; and the third to Mr. J. W. Pearce, gardener to A. W. Ballance, Esq., Blackheath Park. For smaller Ferns, Mr. J. Mullins was first with six specimens; and Mr. J. Rhoden second; the third prize going to Mr. C. Nunn.

Mr. Lambert had the best six *Dracenas*, the second prize going to Mr. W. Jeffery. Mr. Mullins was first with four *Dracenas*, and Mr. Fox second, Mr. Aley being third. Four plants of *Gloxinias* were best shown by Mr. C. Nunn and Mr. W. Payne. Orchids were best shown by Mr. Herd, gardener to Mrs. Bayley, Lee Road; Mr. Lambert; and Mr. Hood, gardener to M. N. Buttenshaw, Esq., Blackheath Park. Mr. G. T. Shrubb, gardener to Mr. South, Blackheath, was first with ornamental *Begonias*; Mr. Saville and Mr. Fox second and third respectively. Mr. Mullins was first for six Palms, and Mr. F. Fox second. Six hardy Ferns brought three competitors, the first prize falling to Mr. C. Saville. Mr. J. Mullins and Mr. Fox were second and third respectively. Mr. Lambert secured the first prize for four *Lycopodiums*, and Mr. Jeffery and Mr. F. Fox were second and third. The first-prize collection included a fine specimen of *S. laevigata*. Mr. Jeffery was also first for six double and single *Pelargoniums*, and Mr. Mullins took first honours for four *Zonals*, and likewise for four Show *Pelargoniums*; the second prize in the latter class going to Mr. J. Rhoden. Mr. C. Saville was first for six *Coleuses*, which were also well shown by Mr. J. Pearce, gardener to J. Wainwright, Esq., Belmont Hill. Mr. Aley was first for three table plants, and Mr. F. Fox second. The best single table plant (*Cocos Weddelliana*) was shown by Mr. Lambert, and the next best by Mr. J. Cooke. Hardy flowers were shown by Messrs. J. T. Shrubb, J. Mullins, and A. Byrns, Esq., Fooks Cray, Kent.

Roses were not very numerous but the blooms staged were very fresh and bright. C. E. Shea, Esq., Fooks Cray, Kent, was first for twenty-four blooms, La France and Horace Vernet being particularly good in this stand. Mr. J. Bateman, Highgate, was second in this class and third for six blooms. R. L. Knight, Esq., Sittingbourne, was placed third for twenty-four blooms and first for twelve Teas or Noisettes. Mr. Fox staged the best nine Roses, Mr. J. Pearce and Mr. J. Rhoden being second and third. The first and second prizes for six Roses were awarded to A. Bryans, Esq., and Mr. P. A. Bartlett, gardener to Mrs. Brown, Eltham. Mr. Shea was also first with twelve and six Hybrid Perpetuals. Mr. J. Bateman was awarded third for twelve blooms, the other prizewinners in various classes including those already mentioned.

Special prizes for pot plants and cut flowers were also numerous. Mr. Jeffery was first for a table of plants tastefully arranged, the second and third prize going to Mr. F. Fox and Mr. Mullins. Mr. Helmer, gardener to Miss Hookey, Lee Terrace, was first for four single and double *Begonias*. Mr. Rhoden secured first honours for six *Begonias* in both sections. Mr. Mullins was first for a small group of plants, and Mr. J. Pearce second, the third prize going to Mr. J. Rhoden. The best twenty-four miscellaneous plants were shown by Mr. Jeffery, Mr. Rhoden and Mr. Mullins being second and third. Messrs. J. Peed and Son were awarded the prize for a group of miscellaneous plants, there being no other exhibitor. Various "not for competition" groups were staged, which included splendid collections of *Tuberous Begonias* and *Pelargoniums* from Mr. H. J. Jones, Ryecroft Nursery, Lewisham, greenhouse plants, Roses, and hardy flowers from Messrs. J. Laing and Sons, and Cacti from Messrs. Carter & Co.

Fruit was not very plentiful, but fairly well shown. Mr. T. A. Kester, gardener to W. G. Dawson, Esq., Plumstead Common, was first for a collection, and Mr. J. Neighbour, Bickley Park, second, Mr. W. Jeffery being third. Mr. Rhoden was first for three bunches of black Grapes, and Mr. G. Abbey, gardener to Colonel North, Avery Hill, Eltham, first for a single black bunch, showing Black Hamburgh in good condition. Mr. Abbey was also first for a bunch of white Grapes with Buckland Sweetwater. Messrs. J. Neighbour, J. Rhoden, and R.

Goddard also showed Grapes well. Mr. Neighbour was first for a dish of Strawberries, and Mr. Rhoden for Peaches.

Vegetables were most numerous in the cottagers' classes. The best collection in the gardeners' section was shown by Mr. F. Fox. This stand included some well grown Carrots, Peas, Mushrooms, Onions, and Beet. Mr. Jeffery and Mr. Neighbour were second and third respectively. Mr. C. Nunn secured the first prize offered by Messrs. C. Sharpe and Co., Sleaford, for a collection of vegetables, the same exhibitor also being first for six pots of Tomatoes. Mr. Jeffery was second in the latter class, and first with a collection of vegetables for Messrs. Sutton's prizes.



BULBOPHYLLUM RETICULATUM.

THE extremely rare *Bulbophyllum reticulatum* is now flowering, among other choice things, in Mr. William Bull's Orchid Exhibition. The species is one of the most attractive in this curious and remarkable genus.

CYPRIPEDIUM SOUTHGATENSE.

AMONGST the Orchids which received recognition from the Royal Horticultural Society at the Temple Show was a hybrid *Cypripedium* exhibited by Messrs. W. L. Lewis & Co. under the name of southgatense. It is represented by fig. 6 (see page 39). *C. bellatulum*, so largely utilised by hybridists, is one of its parents, the other being *C. Harrisianum*, the latter being the pollen parent. The hybrid is quite distinct from either of them, alike in form, marking, and general expression. The greatest resemblance to *C. Harrisianum* is found in the lip, the form of which follows the pollen parent rather closely; in colour it is a near approach to rose. In the petals and dorsal sepal, however, there is a wide departure, these more resembling *C. bellatulum*. They are deeply spotted and lined with purple. The hybrid is distinct, and a first-class certificate was awarded.

AERIDES FIELDINGI.

THE "Fox Brush" Orchid, as *A. Fieldingi* is generally known, is a plant which with fair treatment may be relied upon to produce its crowded flower spikes regularly every June and July. The leaves are about 9 inches long, 1 inch broad, and fleshy; the racemes vary from 1 foot to 2 feet in length, and are closely set with flowers about 1 inch across, purple and white in colour. *Aerides Fieldingi* was introduced from the north-east of India in 1850 by Messrs. Veitch. The "Fox Brush" is not hard to cultivate, and grows and flowers well if placed in cylinders with crocks and sphagnum. The warm end of the Cattleya house in such a position as would suit *Vanda coerulea* will suit it, in fact these two plants are found growing together in India. I have found that *Aerides Fieldingi* likes to be kept rather drier than its fellows during the winter when growth has ceased. Several plants are flowering well in the cool Orchid house at Kew.—C. K.

ZYGOPETALUMS.

THE following few species of *Zygopetalums* are the best known among those which were formerly known as *Pescatoreas*. These Orchids are very peculiar plants to cultivate, and they are seldom seen in good condition. They form hardly any pseudo-bulbs, the leaves are evergreen and distichous, and the flowers are borne singly on scapes produced from between the leaves. A warm and moist atmosphere, such as that of an East Indian house, seems to suit these *Zygopetalums* best. They must be kept moist the whole year round, not requiring any resting period. Pots, baskets, or rafts will all be suited for their cultivation, with peat and live sphagnum to grow in. When grown well the plants produce many flowers, which, being curious and sweetly scented, lend additional interest to any Orchid collection.

Z. Backhouseianum is a pretty species; petals and sepals creamy white tipped with purple, lip creamy white with a fine yellow ribbed callus. It was introduced from Ecuador in 1877 by Messrs. Backhouse & Son.

Z. bellum has flowers 3 inches across, sepals and petals pale purple, barred at the tips with darker purple, lip creamy white with a purplish callus. It was introduced from New Grenada in 1878.

Z. cerinum (fig. 5) has large flowers, sepals and petals greenish yellow, waxy; lip yellow clawed with a large crest inside, which is usually a purple band; leaves about 1 foot long. This is probably

the most easily grown species of the section. It was introduced from Chiriqui in 1851.

Z. Dayanum is very much like *cerinum*; petals white, sepals white tipped with green, lip white, clawed with a purple ruff, the

purple in the lip; and *Z. Dayanum splendens*, a dark violet coloured variety.

Z. fimbriatum is an attractive species, the sepals and petals white with purple tips, lip creamy white spotted with purple and



FIG. 5.—ZYGOPETALUM CERINUM (PESCATOREA CERINA).

base of the lip rayed with purple, the column yellow with a red base. There are several varieties of *Z. Dayanum*, the two best being

Z. Dayanum candidulum, a fine white variety with a tinge of

with a fringed margin; the semicircular crest has dark purple ridges.

Z. Kladochorum has white sepals and petals, tipped with dull purple; the pale yellow lip is three-lobed, the crest is sulphur

yellow with purplish brown ridges, column yellow shaded with purple. This is a very fine species introduced by F. Klaboch from Ecuador in 1879.

Z. lamellosum, sepals and petals straw-coloured, lip white shaded yellow, crest yellow with chocolate ridges. Introduced from Columbia in 1875.

Z. Lehmanni is a large-flowered showy species; the sepals and petals are white veined with purple, the lip is deep purple covered with bristling papillæ, the crest has several brown ridges. Ecuador. —C. K.

ROYAL HORTICULTURAL SOCIETY.

JULY 12TH.

THERE was a very attractive display at the Drill Hall on July 12th, but not a very large number to inspect it. Orchids, Roses, Ferns, hardy flowers, Gaillardias, and fruit were all noteworthy.

FRUIT COMMITTEE.—Present: Philip Crowley, Esq. (in the chair), J. Lee, R. D. Blackmore, H. J. Pearson, Harrison Weir, G. Taber, W. Warren, A. Dean, J. Willard, G. H. Sage, G. Wythes, F. Q. Lane, H. Balderson, J. Cheal, and Dr. Hogg.

A splendid collection of Cherries and Pine Apples came from Mr. Thomas, the Royal Gardens, Windsor, well meriting the silver Banksian medal awarded. The former included splendid baskets of Adams' Crown, Late Duke, Frogmore Early Bigarreau, Florence, Black Eagle, Downton, Knight's Early Black, Bigarreau Napoléon, Frogmore Bigarreau, Governor Wood, Black Tartarian, May Duke, Belle d'Orleans, and Bigarreau Monstrous. Mr. Wythes, Syon House Gardens, received a vote of thanks for a fine collection of Melons, which were also exhibited by Mr. Gilman, Ingestre Hall Gardens, Stafford. A collection of Vegetable Marrows and a few Apples came from the Society's garden at Chiswick, the latter to show the depth of colour in the fruit. Mr. Webb, gardener to A. Bird, Esq., Eynham Lodge, Shepherd's Bush, sent a Tomato named Eynham Hybrid, a cross between Stamfordian and Green Gage, a smooth fruit of the colour of Blenheim Orange. Mr. J. Fitt, The Gardens, Panshanger, Hertford, sent a splendid collection of Queen Pines for which a silver Banksian medal was awarded. He also exhibited a cluster of Ladies' Finger Bananas. Mr. C. J. Terry, Tatton Park Gardens, sent a Melon named The Florence, but like all the other Melons exhibited it was passed. Mr. Leach, Albury Park Gardens, Guildford, sent Carrots and Beetroot, and Mr. Bones, Chiswick, a new Cauliflower.

Messrs. J. Veitch & Sons exhibited a new Broad Bean of dwarf growth, and with small pods, well named *Multum in Parvo*. It grows about 15 inches high, and was loaded with pods, the beans being small and of admirable flavour. This is an acquisition for small gardens, but no award was made. Mr. Crasp, Canford Manor Gardens, Wimborne, received a vote of thanks for two dishes of Peaches, and M. E. Mandet for Mastic Cement. Mr. W. Allan, Gunton Park Gardens, Norwich, exhibited fruits of his excellent Strawberries Gunton Park, Lord Suffield, and Empress of India, also plants in fruit, for which he received a cultural commendation.

Messrs. C. Sharpe & Co. offered prizes for Peas. Mr. Osman, Sutton, Surrey, was first with Sharpe's Queen, Triumph, and Sir F. A. Milbank; Mr. Watkins, gardener to F. Pridden, Esq., Boxgrove, Guildford, second; and Mr. J. Gilbert, gardener to the Rev. L. R. Flood, Merrow Rectory, Guildford, third. Some fine pods were shown.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair), Messrs. C. F. Bause, B. Wynne, H. Herbst, R. Owen, Norman Davis, G. Phippen, R. B. Lowe, G. Nicholson, W. Goldring, W. C. Leach, J. Bennett-Poe, T. W. Girdlestone, C. Noble, H. Turner, and G. Gordon.

The exhibits brought before this Committee were numerous and of an interesting character. Messrs. J. Veitch & Sons, Chelsea, had a collection of hardy cut flowering shrubs, which included *Stuartia pseudo-Camellia*, *Ligustrum sinense floribunda* (a beautiful thing), *Andromeda speciosa cassinefolia*, *Ceanothus azureus albus flore-pleno*, and *Weigela sessilifolia*. A silver Banksian medal was recommended. A bright collection of Verbena flowers came from Messrs. Cannell & Sons, Swanley, who also showed Begonia Rosebud and Petunia Schwester Bonifatia. The latter, a fringed double variety, was adjudged an award of merit. It is referred to below. A bronze Banksian medal was recommended for Messrs. Cannell's Verbenas. Mr. H. B. May, Dyson Lane Nurseries, Edmonton, showed a large group of small foliage plants and Ferns (a silver-gilt Flora medal). Hardy flowers were shown by Mr. T. S. Ware, Tottenham. The collection included many choice things, such as *Achillea Ptarmica* The Pearl, Gaillardia Aurora, Delphiniums, and Liliiums of sorts. Among the latter were spikes of *Lilium Bloomerianum magnificum*, for which an award of merit was adjudged. A pan of *Callopogon pulchellus* was also shown by Mr. Ware, and a first-class certificate awarded. This is described below. A silver Banksian medal was recommended. Messrs. Kelway & Sons, Langport, had a large collection of Delphiniums, Gaillardias, and hardy flowers (a silver-gilt medal). Several Delphiniums and Gaillardias were adjudged awards of merit, and are referred to below. Mr. C. W. Cousins sent blooms of *Gladiolus Colvilli albus*, for which a vote of thanks was accorded. A large collection of species and garden varieties of Roses came from the Royal Gardens, Kew, and attracted some attention. Messrs. Laxton Brothers, Bedford, had two boxes of Sweet Peas, amongst which Princess May (mauve) and Princess Beatrice (pink) were the most conspicuous.

In the competition for the Mantell challenge cup for twenty-four

trebles of Roses there were three exhibitors: Messrs. B. R. Cant, F. Cant, and G. Paul & Son. The blooms in each case were exceedingly good, but the prize went to Mr. B. R. Cant for a charming collection. The varieties shown were Her Majesty, Countess of Oxford, La France, Earl of Dufferin, Duke of Wellington, Alfred Colomb, Prince Arthur, Duchesse de Morny, Pride of Waltham, Dr. Andry, Mrs. John Laing, Sultan of Zanzibar, Victor Hugo, Ernest Metz (good), Xavier Olibo, Suzanne Marie Rodocanachi, Mrs. Paul, Marie Baumann (very fine), James Dickson, Gustave Piganeau, A. K. Williams, Madame Cusin, Reynolds Hole, and Marie Verdier. Mr. Frank Cant was placed second.

For eighteen bunches of hardy flowers Mr. G. H. Sage, gardener to the Earl of Dysart, was first; and Mr. J. Gibson, gardener to H. Berkeley James, Esq., Carshalton, first for twelve bunches. D. Marshall, Esq., Auchinraith, Bexley, was second with good flowers. Among the latter blooms of *Campanula persicifolia semi-plena* were shown, and adjudged an award of merit; and *Linaria Peloria*, the last named receiving a first-class certificate. Miss R. Dedenham, St. Peters, St. Albans, was first for eight bunches of hardy herbaceous flowers.

Messrs. W. Paul & Son, Waltham Cross, sent two boxes of new Roses, comprising varieties recently described, and the Hybrid Perpetual Clio, for which an award of merit was adjudged. Mr. Charles Noble, Bagshot, sent a spike of *Lilium giganteum*; and Messrs. E. D. Shuttleworth & Co. sent a plant of *Primula Poissoni*; while Messrs. Harrison and Sons, Leicester, sent blooms of a seedling Pink named Mrs. Harrison, a fine white variety.

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair), Messrs. J. O'Brien, T. W. Bond, E. Hill, E. Handley, J. Douglas, S. Cortauld, A. H. Smee, C. J. Lucas, H. M. Pollett, H. Williams, T. B. Haywood, and Dr. Masters.

Messrs. Sander & Co. received a silver Banksian medal for a bright and interesting group, in which *Cypripedium Elliottianum*, *Renanthera matutina*, *Cattleya gigas* with six flowers, C. Batalini, a cross between C. intermedia and C. Forbesi, C. Wallisi, and a variety of *Miltonia vexillaria* with a very deep central blotch were conspicuous. The latter is as yet unnamed and was not placed before the Committee, but no doubt it will be later on. It comes nearest to Leopoldi. The purplish crimson blotch is very rich. Mr. E. Bristow, gardener to J. W. Temple, Esq., Leyswood, Groombridge, had a splendid collection of *Cattleya gigas* blooms, also *Lycaste tetragona*, *Cattleya du Buyssoniana*, and other Orchids. Mr. Duncan, gardener to C. J. Lucas, Esq., Warnham Court, Horsham, received a botanical certificate for *Cypripedium tampense*. Mr. W. H. Robbins, gardener to W. Vanner, Esq., Camden Wood, Chislehurst, received a cultural commendation for *Celogyne Sanderiana* with three spikes of bloom, carrying thirty flowers. Messrs. Hugh Low and Co. had a small collection of *Cypripediums* and *Cattleyas*, also *Pescatorea cerina* and *Dendrobium crystallinum album*. Messrs. Charlesworth, Shuttleworth & Co, Heaton, Bradford, received a silver Banksian medal for a collection of *Oncidiums*, such as *macranthum Williamsi*, *lameligerum*, *curtum*, and *Gardnerianum*.

CERTIFICATES AND AWARDS.

Phalaenopsis × *Artemis* (J. Veitch & Sons).—A charming hybrid gained by crossing *P. rosea* with *P. amabilis* (Blum), *P. grandiflora*, *Lindl.* The sepals and petals are white faintly suffused with rose at the base; the lip is deep rose, bronzy yellow at the base. The staminode is white with chocolate dots and the column rose (award of merit).

Dendrobium crystallinum General Berkeley variety (Major-General Berkeley).—A charming form with a profusion of small pendent flowers. The lip is white tipped with rosy crimson, the base rich yellow; the sepals and petals are white, suffused and heavily tipped with crimson (award of merit).

Cypripedium Stonei candidum (Pitcher & Manda).—This may be fairly described as a pale form of *Stonei*, following it in character, but differing in colour. The dorsal sepal is ivory white veined with brown, the lower sepal white with a slaty suffusion. The base of the lip and the frilled staminode are white, the pouch veined with rose. The petals are long, narrow, and twisted, light green dotted with chocolate, the tips deep purple (award of merit).

Petunia Schwester Bonifatia (H. Cannell & Sons).—This is an attractive fringed double variety of a magenta-pink shade (award of merit).

Lilium Bloomerianum magnificum (T. S. Ware).—An attractive Lily, the flowers being medium in size, and rich in orange colour, covered with dark red and chocolate spots. Two spikes were shown, one of them carrying twenty expanded flowers and buds (award of merit).

Callopogon pulchellus (T. S. Ware).—This is a charming plant. The blooms are small, and borne on slender spikes, four or five on each. Colour bright rosy mauve (first-class certificate).

Gaillardia Mrs. Pitcher (Kelway & Sons).—A most attractive variety. Flowers large, reddish brown, edged with bright gold (award of merit).

Delphinium Henry (Kelway & Sons).—This is a decided acquisition. Spike and flowers large, and rich blue in colour, semi-double (award of merit).

Delphinium Princess May (Kelway & Sons).—Flowers large, single, of a mauve or heliotrope colour, margin of the outer petals shading to light blue (award of merit).

Delphinium Sailor Prince (Kelway & Sons).—A grand variety, with large deep blue flowers.

Campanula persicifolia semi-plena (Mr. W. Marshall).—This is a showy variety, with large semi-double dark blue flowers.

Linaria Peloria (W. Marshall).—Noteworthy for the transformation in the form of the corolla, which is conical. The flowers are lemon yellow borne in spikes (first-class certificate).

Rose Clio (W. Paul & Son).—This is a Hybrid Perpetual of sterling merit. The blooms shown were large, of good form, blush pink in the centre, the outer petals being white (award of merit).

ROSE SHOWS.

DISS.—JULY 5TH.

THE Diss Horticultural Society is unfortunate. The date of fixture for its summer Show generally invites Jupiter Pluvius, and he seldom refuses to put in an appearance. The Committee depend upon the attendance of the gentry in the neighbourhood, but a soaking afternoon frightens away the ladies, and makes cautious those who realise the dangers of thin soles on wet turf. Beginning this year with an adverse balance of £26, the constant and heavy rain on the afternoon of the 5th July will greatly add to the financial burdens of the Society. We were all sorry indeed for the plucky Honorary Secretary, but the Rev. F. Page-Roberts is not one to give in easily, and doubtless his untiring energy, combined with his wide popularity, will "bring the ship round."

Roses and other cut flowers, fruit and vegetables, table decorations, plants in pots, and the usual cottagers' classes, all went to make a very good Show, the quality being generally very good. As for the Roses, in five out of the six classes the competition may be described as a tussle between Suffolk and Norfolk parsons. For thirty-six distinct single, (open), the first prize was won by Mr. Benjamin Cant, very closely followed by the Rev. F. A. Foster Melliar, Messrs. Prior of Colchester being third. In Mr. Cant's stand were—Back row: Etienne Levet, Mrs. J. Laing, Earl of Dufferin, Viscountess Folkestone, Auguste Piganeau (very good), La France, Victor Verdier, Dupuy Jamain, François Michelin, Le Havre (good), Innocente Pirola, and Maurice Bernardin. Middle row: Marchioness of Dufferin, Duke of Edinburgh, Pride of Waltham, Fisher Holmes (good), Niphetos, Marie Baumann, Duchesse de Vallambrosa, A. K. Williams (good), Madame de Watteville, M. de St. Amand, and Prince Arthur (good). Front row: Thos. Mills (very good), Annie Laxton, Reynolds Hole, Heinrich Schultheis, Victor Hugo (grand), Germaine Caillot, Madame Désir, Merveille de Lyon, Horace Vernet, Maréchal Niel, Lady Helen Stewart, and Gabriel Luizet. In the second prize stand were very good Roses, but Mr. Foster Melliar had kept his best for the next class with the idea of taking back to Sproughton Rectory the splendid silver cup which he had brought in the morning. However, he was only a very little way behind Mr. B. Cant. He had a grand Gabriel Luizet, while Dr. Andry, Marie Van Houtte, Marie Baumann, The Bride, Duke of Teck, Mrs. Paul, and E. Y. Teas were very good. In the third prize stand Prosper Laugier, Madame Cusin, and Alphonse Soupert were very fine.

The next class created most excitement, as the winner holds for a year a splendid challenge cup, value £10, given in memory of the late Rev. Henry Temple Frere. Mr. Foster Melliar has now won it a second time. His Roses were remarkable for their size, colour, and freshness, very superior to any he had at the Crystal Palace the Saturday before. A few we must mention as particularly fine: Gustave Piganeau, A. K. Williams, Mrs. Baker, Eugène Fürst (very rich), Her Majesty, Mrs. Paul, Star of Waltham, and Marie Verdier. The Rev. H. A. Berners of Harkstead Rectory was a good second, being very strong in Teas. In this box a bloom of Jean Soupert won the silver medal as the best H.P. in the Show. The Rev. A. L. Fellows was third, and the Rev. F. Page-Roberts fourth; verily a parson's competition. For twelve distinct the Rev. F. Page-Roberts was first with a very good box indeed, very bright and clean; the second and third prizes going to Geo. Palmer, Esq., and E. N. Bunn, Esq., of Harleston respectively. There were some respectable flowers shown in the local classes.

The Teas were excellent. The Rev. H. A. Berners was easily first for twelve distinct, his flowers having great depth, substance, and colour. This was a splendid box:—Back row: Comtesse de Nadaillac (silver medal for best Tea), Innocente Pirola, Ethel Brownlow, Etoile de Lyon (beautiful). Middle row: The Bride, Souvenir d'Elise, Madame Hoste (very fine), C. Mermet. Front row: Souvenir d'un Ami, Maréchal Niel, Hon. E. Gifford, and Francisca Kruger. The Rev. the Hon. Secretary was second with smaller and not quite so clean flowers. However, Innocente Pirola, La Boule d'Or, and Niphetos were beautifully represented. The third prize Rev. A. Foster Melliar gained. Alfred Bobby, Esq., the Rev. A. Farquharson, and the Rev. A. L. Fellows were not successful in this excellent class.

Your reporter cannot but endorse the opinion of many good judges present, that the herbaceous flowers were most excellent and interesting, and he has much pleasure in reporting here the success of the Rev. F. Page-Roberts.

BAGSHOT.—JULY 5TH.

IF Surrey does not send forth the Roses which secure the leading prizes of the year, it has a numerous contingent of what may be termed second class growers, and their numbers are added to by cultivators in the neighbouring counties. At Bagshot Show the most prominent rosarians were not present, but their places were creditably filled by smaller growers, who exhibited amongst them some admirable blooms. This applies particularly to the amateurs.

In the trade class for forty-eight blooms there was unfortunately no competition. This was partly owing, no doubt, to the fact of the fixture

clashing with the Show at Earl's Court, where the numerous large classes placed no inconsiderable strain on the resources of the growers. In the leading amateurs' class some admirable blooms were shown by F. W. Flight, Esq., Cornstiles, Twyford, who achieved a highly creditable victory. W. Colin Romaine, Esq., The Priory, Old Windsor, was second, and he also had some good blooms, Mr. J. T. Strange, Aldermaston, being third. T. W. Girdlestone, Esq., Sunningdale, won with twelve Teas or Noisettes: he had a delightful stand, the flowers being noteworthy for freshness and beauty of tone. Amongst them was a splendid bloom of Souvenir d'Elise Vardon, which secured the National Society's silver medal, and as will be seen from our report of Windsor Show the same flower won a similar honour there. Mr. Flight was second, and Mr. Page third. There were some good flowers in the class for six blooms, Mr. Girdlestone being again first, and Mr. Morsman second. The stands of Messrs. Flight and Romaine were so close that they were placed equal first.

The Connaught challenge cup was in competition in a class for twenty-four blooms confined to growers within a radius of twelve miles, and Mr. Romaine secured it with an excellent stand. His blooms were fresh and well finished, the best being a very fine Sir Garnet Wolseley, which won the N.R.S. silver medal as the best H.P. in the Show. Mr. Page was second. The flowers were not so good in the class for twelve, and only second prize was awarded, this going to Mr. J. W. Wix. Messrs. Page, Popple, and Wix secured the prizes for six. Mr. Romaine won with Teas and Noisettes, Mr. Page following. The prizes for growers within a five-miles radius went to Messrs. Page, Popple, Wix, Christmas, and Twort; and those in the cottagers' classes to Messrs. Higgs, Soan, and Baigent.

In the classes for plants, fruit, and vegetables there was some excellent produce, especially in those where the special prizes offered by Messrs. Carter & Co. were in competition.

GLOUCESTER.—JULY 5TH.

(From a Correspondent.)

THE rain and the Roses had a hard fight on the occasion of the Gloucestershire Rose Society's Show this year—the former by pouring incessantly during the whole time the Exhibition was held, tending to keep the public away, the latter to draw them to it. I hardly know which had the better of it; that will transpire in the balance sheet, no doubt, but if the attendance was not so large as it would have been had fine weather prevailed it might have been far worse. Those who braved the rain were rewarded by seeing an admirable display of flowers, and were more than satisfied, even if, like myself, they had to put up with a soaking.

Mr. Frank Cant came out strongly in the principal class, which was for seventy-two blooms, having bright, fresh, well-finished examples; his Ernest Metz, Marie Baumann, Pride of Reigate, Général Jacqueminot, Lady Mary Fitzwilliam, Horace Vernet, Caroline Kuster, Alfred Colomb, and Gustave Piganeau were excellent. The English Fruit and Rose Growing Company were second, and Messrs. Cooling & Son third. The latter won with forty-eight, and if hardly up to Mr. Cant's form they were still a very good collection. Their Madame Gabriel Luizet, Innocente Pirola, and Mrs. J. Laing were very good blooms, although, so far as I have seen, the last named is not quite up to the usual standard this year. The English Fruit and Rose Company were second, and Messrs. W. & J. Jefferies third. Mr. Frank Cant secured his second premier award in the class for twenty-four trebles, and there was no gainsaying the quality of his flowers, albeit he is not generally seen at his best with threes. His A. K. Williams, Ernest Metz, Heinrich Schultheis, and Gustave Piganeau were very good. Messrs. Cooling and Son were second, the English Fruit and Rose Company third. Messrs. Jefferies, Mattock, and Treseder secured the prizes for thirty-six singles in the order named. The classes for blooms of one variety were, as they always are, very beautiful. Mr. Frank Cant had the best twelve of a dark variety, A. K. Williams representing him. Mr. Drew was second with Marie Baumann, and Messrs. Cooling & Son third with Abel Carrière. Mr. Budd was first with twelve of a light variety, winning with a charming box of the Hon. Edith Gifford, Mr. Frank Cant being second with Madame de Watteville, and Mr. Treseder third with Lady Mary Fitzwilliam. Maréchal Niel in fine condition secured the first prize for Mr. Hill Gray in the yellow class, Mr. G. Prince being second with Comtesse de Nadaillac, and Mr. Mattock third with Maréchal Niel. Mr. Hill Gray also won with six each of the Hon. Edith Gifford and Anna Ollivier, of which he had very chaste blooms. Mr. Mattock was second, and the Rev. F. R. Burnside third. Mr. Gray's next victory was with six of any Tea, in which class he exhibited Comtesse de Nadaillac in beautiful condition. Mr. Burnside also had the Comtesse in his second prize box, the English Fruit and Rose Co. coming in third with The Bride.

Mr. Geo. Prince showed Teas splendidly in the open class for eighteen, and fairly beat Mr. Frank Cant. His Souvenir d'Elise Vardon, Ernest Metz, and Comtesse de Nadaillac were a beautiful trio. Mr. Mattock won with twelve, Messrs. Jefferies being second, and Messrs. G. & W. H. Burch third. Messrs. Cooling & Son were first for garden Roses, and I could find no other box. Mr. Mattock had the winning basket. Mr. W. Drew won the N.R.S. medal for the best H.P. with A. K. Williams, and Mrs. Cuthbert that for the best Tea with Innocente Pirola.

Mr. Conway Jones, Mr. T. A. Washbourn, Mr. Hopton, Mr. D. T. Mitchell, Mr. H. M. Hartland, Mr. T. Thorpe, and Mr. J. Middlecote had some excellent flowers in other classes.

HITCHIN.—JULY 6TH.

In the pleasant grounds attached to the Hitchin Grammar School this Society held its annual Exhibition, and it was in all respects an admirable Show. The Society has widely extended its scope from the days when I remember it at its beginnings, when all was comprised in one small tent not very well filled. Now several tents were well filled by various exhibits in the varied branches of horticulture, and anyone going through the tents could see at a glance that there must be a good deal of horticultural zeal in Hitchin and its neighbourhood. Roses, indeed, formed the *pièce de résistance*, but they were flanked by many a dainty dish. One tent was filled by an admirable collection of table and other decorations, in which much taste and skill were displayed; another was filled with a capital collection of fruit and vegetables, and with cottagers' productions. These are sure always to attract considerable attention, and were here well deserving of it. I only notice these matters in passing, for of course I have specially to do with the Rose. There had been some rain the evening before, and fears were entertained as to whether Hitchin would follow its too general course of having a wet day; but the morning broke fine, the sun came out brilliantly, and the Roses where they had been protected from the rain of the night before were all the better for it, and as there was a cool breeze the flowers stood uncommonly well throughout the day; indeed, so far this has been a characteristic of the season.

As Mr. Lindsell was at home his Roses were expected to be in fine condition, and so undoubtedly, they were; but withal I do not think that they were equal to the stand of forty-eight which he exhibited at Earl's Court the day before. This stand I regard as the very best box of Roses I ever remember to have seen. There used to linger in my memory a box of thirty-six I once saw exhibited by Mr. Jowitt in his palmiest days at Birkenhead as the finest box I ever saw, but I must now give it the second place and give the place of honour to this box. There were flowers in it one cannot get out of one's mind, especially a bloom of Horace Vernet. I remember a triplet of this flower I once saw exhibited by Mr. Pemberton at Farningham as grand specimens of this fine but difficult flower, but this flower was a beat on them. So grand was the box that the authorities adjudged it a gold medal for the best exhibit of the day, not merely of Roses but of everything shown, whether fruit, flowers, decorations, or anything else in this varied and beautiful Exhibition. I have wandered away from my subject, but as I shall not have the opportunity of commenting on this Show I wished to give my estimate of its excellence.

I now revert to the Roses at Hitchin, and had perhaps better take them in the order in which they occur in the schedule, taking the nurserymen first. Although the class for forty-eight was open, yet only the trade competed in it, and four excellent stands were staged, Messrs. Paul & Son exhibiting the best box of blooms they have shown this season, and Mr. Burrell running a close second, while Messrs. Burch and Son and Merryweather ran very close for the third, so close that the Judges awarded an extra prize to the stand shown by the latter firm. Messrs. Paul's box contained Her Majesty (grand flower), Earl of Dufferin, Maréchal Niel, Eclair, Maurice Bernardin, Mrs. John Laing, Lady Mary Fitzwilliam, Camille Bernardin, Comte Raimbaud (bright and fresh), Mrs. Paul (very excellent and distinct), Duke of Edinburgh (very fine and bright in colour), Marie Rady, Catherine Mermet, Comtesse d'Oxford, Jean Ducher, Mrs. Geo. Schwartz, A. K. Williams (a grand bloom, fine form and colour), Ella Gordon, Jeannie Dickson (very pretty), Mrs. Charles Wood (very fine), Souvenir d'un Ami, Henri Lédéchaux, Madame Gabriel Luizet, Countess Rosebery, Vicomtesse Folkestone, Pride of Waltham, Sénateur Vaisse, Baroness Rothschild, Dr. Andry, La France, Etienne Levet, Merveille de Lyon, E. Y. Teas, Perle des Jardins, Black Prince, Capt. Christy, Horace Vernet, The Bride, Boieldieu, Madame Hoste, Alfred Colomb, M. de St. Amande, Duke of Connaught, Comtesse de Nadaillac, and Grandeur of Cheshunt. Messrs. Burrell & Co. were second, Messrs. Burch & Son third, and Messrs. Merryweather & Sons fourth. In Mr. Burrell's stand were fine blooms of Duchess of Bedford, Horace Vernet, Ernest Metz, and Reynolds Hole.

In the class for amateurs, twenty-four distinct varieties, Mr. Lindsell was easily first, Mr. Gurney Fowler a good second, and Rev. W. H. Jackson third. Mr. Lindsell's flowers were the following—Grand Mogul (extra fine bloom of this variety), Mrs. John Laing, Earl of Dufferin, Her Majesty, Horace Vernet (very fine), Madame G. Luizet, Ulrich Brunner, Lady Mary Fitzwilliam, Madame Cusin, Prince Arthur, Caroline Kuster, Dr. Sewell, Dupuy Jamain (grand), Duke of Teck, La France, Louis Van Houtte, Duchess of Bedford, Comtesse de Nadaillac, A. K. Williams, Duchesse de Morny, Reynolds Hole, Etoile de Lyon, Le Havre, Madame E. Verdier. In the class for twelve Teas Mr. Lindsell was first again with a very beautiful stand indeed, consisting of Princess of Wales, Cornelia Koch, Madame Cusin, Souvenir d'Elise, Anna Ollivier, Catherine Mermet, Innocente Pirola, Jean Ducher, Comtesse de Nadaillac, The Bride, Caroline Kuster, and Madame Margottin. Rev. W. H. Jackson was second, and H. V. Machin, Esq., third.

In the class for twelve distinct varieties, Mr. Jas. Parker, Oakfield, Hitchin, was first. His flowers were Her Majesty, A. K. Williams, François Michelin, C. Darwin, Charles Lefebvre, Madame G. Luizet, Alfred Colomb, Madame E. Verdier, Marie Verdier, Duc de Rohan, Duchesse de Vallombrosa, Rossieriste Jacobs. Mr. G. Moules of Hitchin was second, having a grand Merveille de Lyon, which took the silver medal of the National Rose Society for the best H.P. in the amateurs'

classes. Lord Hardwick (gardener, Mr. Burgess), was third, and Miss Bailey, Denton, fourth.

In the class for nine distinct varieties Mr. C. Kingsley, Little Wymondham, was first with a box containing Fisher Holmes, Charles Darwin, Prosper Laugier, A. K. Williams, Marie Rady, Duchess of Bedford, Mme. G. Luizet, Reynolds Hole, Duke of Wellington. Mr. A. Times was second, Mr. A. Albow third, and Mr. A. Ransom fourth. In the class for six distinct varieties Mr. G. Moules was first with box containing A. K. Williams, Francisca Krüger, Ulrich Brunner, The Bride, Duke of Edinburgh, Souvenir d'un Ami. Miss A. M. Lucas was second, Mr. W. Ransom third, and Mr. Savage fourth. In the class for six Teas Mr. J. Parker was first with Comtesse de Nadaillac, Mme. Cusin, Marie Van Houtte, Etoile de Lyon, Catherine Mermet, Mme. de Watteville. Mr. G. Moules was second, and Colonel Fyler third. In six H.P.'s of one Mr. J. Gurney Fowler was first with a good stand of Charles Lefebvre; Mr. W. H. Jackson second, and Miss Bailey Denton third, both showing Mme. G. Luizet. In six Teas of one kind Mr. E. B. Lindsell was first with Catherine Mermet, Mrs. Times second with Maréchal Niel, and Rev. W. H. Jackson third with C. Kuster. In the class for six, open only to those who had not taken a prize, Mr. H. Hunt was first, Mr. R. H. Baker second, and Mr. W. Hill third.

I have already spoken of the herbaceous plants at this Show. Noticeable amongst them was a beautiful collection from Messrs. Burrell and Co., Cambridge. Mr. J. H. Tuke had also a good collection from his beautiful garden. Messrs. Burrell's group was most admirably set up, the contrasts between the different colours being very effective, and altogether it was a very striking exhibit.—D., Deal.

NORWICH.—JULY 7TH.

[From a Correspondent.]

THERE was an unfortunate clashing on Thursday, the 7th July, affecting very seriously the classes for Roses. How it came to pass that the executives of the Norwich and Woodbridge Societies failed to come to some amicable arrangement whereby the two Shows might have been held on different days I am at a loss to conceive. The consequence was that the Roses at Norwich were very weak in numbers, although of quite an average quality. The Show was held in Earlham Park, distance from Norwich nearly three miles. This park is admirably suited for horticultural shows, yet it is rather hard on amateurs and nurserymen to have the annoyance of a long road journey after a very long railway one. A gale of wind made things unpleasant, especially as it lifted a large marquee and blew it clean over. The exhibits, chiefly fruit, were transferred to the Rose and cut flower tent, which, being in a more sheltered position, withstood the hurricane.

The nurserymen were poorly represented—in fact, Mr. B. R. Cant "walked over," no other nurseryman turning up. This was unfortunate, for there were four or five nurserymen who entered in the class for forty-eights, the first prize being given by the Mayor of Norwich (H. Reeve, Esq.); however, the prize was well earned. Mr. Cant had excellent examples of Her Majesty, Duchesse de Morny (lovely, reminding one of the Mornys of Mr. Jowitt nine years ago), Etienne Levet, Augustine Guinnoisseau, Eclair, F. Michelin, Marquise de Castellane (not now so often seen as it should be), Victor Hugo (grand), Earl of Dufferin, Jeannie Dickson, Comte de Raimbaud (very good), Thos. Mills (excellent), Innocente Pirola, Mrs. J. Laing, G. Piganeau, A. K. Williams, and Lady M. Fitzwilliam. For eighteen distinct varieties, three trusses of each, Mr. Benjamin Cant was, of course, again the only exhibitor; but he quite upheld the standard of the year, though this standard is not, in my opinion, a very high one.

In the amateurs' class for thirty-six distinct single blooms, the Rev. J. H. Pemberton, of Havering-atte-Bower, was first, though many were of opinion, myself amongst them, that Mr. Foster Melliar should have been adjudged the first prize. Both stands were excellent, and Mr. Pemberton probably won by "patience in staging," for at three o'clock in the afternoon he was quite out of it, whereas Mr. F. Melliar's stand had perceptibly improved. Mr. Pemberton had grand blooms of Annie Laxton, Exposition de Brie, Ethel Brownlow, Marie Baumann, Beauty of Waltham, Dr. Andry, and Duke of Teck.

In the second prize stand, Mr. F. Melliar not only won the medal for the best H.P. (A. Colomb) but had grand specimens of A. K. Williams, Caroline Kuster, Her Majesty, Ed. Harvé, Marie Baumann (excellent), and Horace Vernet, which bloom, methinks, the excellent rosarian of Sproughton Rectory thought should have had the medal, but even judges who are not amateurs are fallible. There was a good competition for the twenty-fours, but nothing special as to quality.

And now for the Teas. The Rector of Harkstead was easily first for twelve singles. How Mr. Berners manages to "score" as he does in this class astonishes me. He manages to beat thoroughly many who grow twice or thrice the number of plants that can be found in the Harkstead Rectory gardens. His gardener, too (Mr. G. Jordan), is to be thoroughly congratulated, for he has worked hard and well. I do not mean to say that Mr. Berners has any particular credit in being ahead of the champions of Sproughton and Scole, for the disasters of the past winters have probably been more severely felt by Mr. Foster Melliar and Mr. Page Roberts than by the Harkstead Rector. Still, Harkstead is a miracle in Teas. Whether it is the water administered by a particular Jordan I know not! However, I am digressing, and must come to the point as to the names of Mr. Berners' best Teas. Here they are:—Maréchal Niel, Souvenir d'Elise, Madame de Watteville (silver medal, grand), Madame Hoste (if anything grander), Princess of Wales, Ernest Metz (very good), Innocente Pirola, Comtesse de Nadaillac, The Bride,

Souvenir d'un Ami, E. Brownlow, and C. Mermet. A very beautiful and even stand. The second prize was won by the Rev. F. Page Roberts with a most creditable lot, very closely followed by the Rev. A. Foster Melliar. The classes for twelve and six of one sort, H.P.'s and Teas, were fairly represented. In the twelves Mr. Berners was first for Comtesse de Nadaillac, and the Rev. A. S. Fellows second with La France. The sixes were poor.

In the Norwich *Daily Press* report of this Show I notice that these two charming Roses, La France and Nadaillac, are put down as "Hardy Perennials." Quite true! H.P. may stand for almost anything. Hollow (Crown) Parsnips, or High (Church) Parsons! I must not forget the grand exhibition of herbaceous flowers—hardy perennials indeed! The well-known East Anglian names of Page Roberts, Corder, Farrer, Frere, Back, with Mrs. Petre, are sufficient to prove what a treat those of your readers have missed by not turning up at Earlham Park on the 7th of July, 1892.

BATH.—JULY 7TH.

ALTHOUGH a considerable number of exhibitors who entered in various classes failed to keep their engagements, many of them not even notifying their defection, the Show was very well filled, and an excellent one all round. The weather though very bad for the blooms a day or two previous, heavy storms damaging them considerably, proved more favourable than anticipated, and the attendance was good accordingly.

There were only three exhibitors in the premier class—that for seventy-two varieties, single trusses—and the Judges had no great difficulty in awarding the first prize to Mr. B. R. Cant, Colchester, whose stands comprised a good even lot of fresh blooms, the varieties consisting of Mrs. J. Laing, Crown Prince, Alfred Colomb, Baroness Rothschild, T. W. Girdlestone, Duchess of Albany, Maurice Bernardin, Abel Carrière, Marie Verdier, Marchioness of Dufferin, Madame Victor Verdier, Marie Finger, Earl of Dufferin, Mrs. Paul, Marie Baumann, Her Majesty, Ulrich Brunner, Xavier Olibo, Merveille de Lyon, C. Darwin, Jean Ducher, Thomas Mills, Madame de Watteville, Sénateur Vaisse, Duchesse de Morny, Mrs. Laxton, Souvenir de Paul Prince, Le Havre, Souvenir d'Elise Vardon, Horace Vernet, Madame Cusin, Dupuy Jamain, Madame Angèle Jacquier, Duke of Edinburgh, Maréchal Niel, Benoit Comte, Caroline Kuster, Harrison Weir, Violette Bouyer, Camille Bernardin, The Bride, Eclair, Viscountess Folkestone, Suzanne Marie Rodocanachi, Margaret Dickson, Beauty of Waltham, Madame Eugénie Verdier, Annie Wood, Innocente Pirola, Marie Rady, François Michelin, Fisher Holmes, Ernest Metz, A. K. Williams, John Hopper, Mons. E. Y. Teas, Madame Gabriel Luizet, Général Jacqueminot, Margaret Bondet, Cheshunt Hybrid, Etienne Levet, Prince Camille de Rohan, Madame Delville, Prince Arthur, Comtesse Panisse, Victor Hugo, Marie Cointet, and Reynolds Hole. The Hereford Fruit and Rose Company were a very creditable second, and Messrs. G. Cooling & Sons, Bath, a close third. With thirty-six trebles Mr. B. R. Cant was again first, his best being Mrs. J. Laing, Marie Baumann, Maurice Bernardin, Etienne Levet, The Bride, and Comte de Raimbaud. Messrs. Cooling & Sons were a good second, their stands comprising excellent blooms of Victor Hugo, Xavier Olibo, Earl of Dufferin, and Suzanne Marie Rodocanachi. The Hereford Company were placed third.

The competition was much better in the class for eighteen trebles, six lots being staged, and here Messrs. Curtis, Sanford & Co., Torquay, were easily first; Mr. J. Mattock, Oxford, was second; and Messrs. Keynes, Williams & Co., Salisbury, third; each having many excellent blooms. Seven staged in the class for thirty-six varieties, singles, but Messrs. Curtis, Sanford & Co. were well ahead of all the rest, their stands comprising some of the best blooms seen in the Show. Mr. John Jefferies, Cirencester, was second with a fresh even lot. Mr. C. Turner, Slough, took the remaining prize. The only other class confined to nurserymen was that for eighteen Teas or Noisettes, distinct, and with these four competed. Mr. J. Mattock was first with good examples of Madame Lambard, Souvenir d'Elise Vardon, Comtesse de Nadaillac, Hon. E. Gifford, Ernest Metz, The Bride, Miss E. Brownlow, Madame Hoste, Madame de Watteville, Jean Ducher, C. Mermet, Rubens, Souvenir d'un Ami, Niphetos, Princess of Wales, Cornelia Koch, and Anna Ollivier. Mr. B. R. Cant was second, and Mr. J. Jefferies third.

Amateurs did not muster so strongly as usual, Dr. Budd, Bath, having a walk over in the classes for thirty-six varieties, and eighteen varieties, distinct, taking the silver cup in the former, and also the first prize in the other. He had grand blooms in both instances. In the class for twenty-four varieties the competition improved considerably, but Mr. W. Drew, Ledbury, was well first with fine blooms of Merveille de Lyon, Dupuy Jamain, Mrs. J. Laing, Marie Baumann, La France, Louis Van Houtte, Duchesse de Vallombrosa, Earl of Pembroke, Queen of Queens, Prince Arthur, Marchioness of Dufferin, Duchesse de Morny, Duchess of Bedford, Her Majesty, Comte de Raimbaud, Madame C. Crapelet, Mons. E. Y. Teas, The Bride, Ulrich Brunner, Lady Mary Fitzwilliam, Earl of Dufferin, François Michelin, and A. K. Williams, the last mentioned being very fine. Mr. W. Narrowway, Oxford, was a good second, and Mr. R. B. Cater, Bath, third. Mr. A. H. Gray was highly commended for a stand principally composed of Teas; Mr. Drew was also first for twelve varieties, Mr. J. Rawlins, Cirencester, being second, and Mr. W. Narrowway third. Mr. J. Hinton, Warminster, was highly commended, and also received a silver medal for the best Tea in the Show, a large but not particularly well formed bloom of Catherine Mermet. With twelve triplets Mr. Drew was first, Mr. W. Narrowway second, and Mr. A. Evans, Oxford, third.

A beautiful lot of Teas and Noisettes were shown by amateurs, and

of these the best eighteen varieties, single trusses, came from the Rev. F. R. Burnside, Hereford, and a grand lot they were. Mr. A. H. Gray was second, and Dr. Budd third. With twelve varieties Mr. Herbert Fowler, Taunton, was easily first, having very fine blooms. Mr. W. Drew was second, and Mr. W. Narrowway third. With six Teas the Rev. F. R. Burnside was first, Mr. A. H. Gray second, and Mr. Evans third.

In all the open classes there was good competition, and the blooms generally were of great excellence. In the class for twelve blooms of any Rose Mr. A. H. Gray was first for Maréchal Niel at its best, Messrs. Keynes, Williams & Co. being second with Niphetos. Mr. Gray repeated his success in the next class, that for any yellow Rose, with another good stand of Maréchal Niel, Mr. B. R. Cant being second with the same variety. The best six blooms of La France were also staged by Mr. Gray. The first prize for six blooms of any new Rose went to Mr. B. R. Cant for Gustave Piganeau. Messrs. Curtis, Sanford & Co. were second with the same variety.

Local prizes were competed for in a more spirited manner than usual, but Dr. Budd easily won the first prize and gold medal of the National Rose Society, offered for the best twenty-four varieties, single trusses. This was really one of the best stands in the Show. His Marie Rady gained a silver medal, offered for the best Hybrid Perpetual in the Show. Mr. A. H. Gray was second, and Mr. J. T. Holmes third. Other



FIG. 6.—CYPRIPEDIUM SOUTHGATENSE.

successful local exhibitors were Messrs. R. B. Cater, W. J. Harte, and E. G. Garraway.

Baskets of Roses were numerous and beautifully arranged. Mr. J. Rawlins, Cirencester, was first; Mr. E. S. Cole, Bath, second; and Mr. J. Mattock third. Two classes were provided for hand bouquets of Roses with their own foliage, and of these there was an extraordinary display, fully seventy bouquets being shown. The first prize for twelve bouquets was well won by Mr. J. Mattock, Teas with their coloured foliage predominating in this instance, while Messrs. Cooling & Sons were a good second. The best six were shown by Mr. W. Narrowway, Mr. R. B. Cater being second, and Mr. J. H. Thresher, Frome, third. Begonias, both plants and cut blooms, were fairly well shown in the classes provided for them, Messrs. H. Fowler, R. W. Beachy, D. S. Carr, J. B. Blackmore, and F. Hooper being the principal prizewinners. Mr. R. B. Davis, Yeovil, staged cut Begonias in his usual effective style, the doubles being remarkably fine.

WOODBIDGE.—JULY 7TH.

WHEN requested to assist in awarding the prizes at Woodbridge, one of the Judges had to mentally confess his ignorance of the location of the little horticultural town, but had an impression that it was somewhere in East Anglia. He went down to Ipswich, and sought inspiration from Mr. Spencer King, an ardent amateur; refreshed himself with the Strawberries of Mr. Garrod, a fine specimen of a market gardener; and with something else during a call to see the beautiful garden of Mr. Limmer, a business magnate; then went on his way more than satisfied with his progress so far, and wondering what the end of his journey would reveal. A crowded platform, a struggle with Rose boxes, a street ahead festooned with gay colours, and a flag surmounting a splendid church tower were sufficient assurances that he had arrived at the right place, and that the flower Show day was a day of rejoicing in

the little Suffolk town—a small town of some 4000 inhabitants, but very far from a proportionately small Show. It was really a large Show, diversified and excellent, larger and better than can be found in many towns of ten times the size in any year. The beautiful Abbey grounds, with finely timbered surroundings, kindly granted for the day by R. J. Carthew, Esq., presented quite an animated appearance with the several marquees, especially when the visitors, apparently in thousands, came flocking in, and when the military bands were vying with each other to gain the ear of the multitude on the pleasant summer's day. "We always have a fine day for *our* Show," remarked one who was evidently interested in it; "but it always rains at Ipswich." He meant on Show days, half implying that with a little Woodbridge acumen they might manage things better in the chief county town in the matter of weather.

The Show to which brief reference is now to be made was the forty-first annual Exhibition of the well supported Woodbridge Horticultural Society. Though associated with the N.R.S., the Shows are a great deal more than exhibitions of Roses. The Rose classes were, however, accorded the place of honour in the schedule, and some of them possessed more than local interest. It will be conceded that it was a spirited thing to offer a 25-guinea challenge cup with the N.R.S. medal for twenty-four Roses, even though the trophy has to be won thrice by an exhibitor before it becomes his property. In the first contest for the handsome cup the "two Cants" put forth their strength, and most good rosarians know what that is. After a close scrutiny by the careful and competent Mr. Burrell and his coadjutors Mr. Frank Cant was found to have won by a few points. Very charming were the blooms in both stands, not so much for size as for form, with freshness, brightness, and purity. The varieties in the winning stand were A. K. Williams, Mrs. J. Laing, Horace Vernet, Her Majesty, The Bride, Madame Eugène Verdier, Etienne Levet, Ernest Metz, Madame H. Pereire, Germaine Caillot, François Louvat, Suzanne Marie Rodocanachi, Duke of Teck, May Rivers (a lovely bloom), Star of Waltham, Madame de Watteville, Comtesse de Ludre, Lady Mary Fitzwilliam, Mary Bennett, Maréchal Niel, John Hopper, Souvenir d'Elise, A. Colomb, and Madame Hoste. Many of the blooms in Mr. B. Cant's were equally good, notably Her Majesty, Niphetos, Marie Baumann, Suzanne Marie Rodocanachi, and others; but a few were just passing the zenith of their beauty. It was a noble stand, and the younger man will have something to do to win another time.

In the class for forty-eight, distinct varieties, there was good and close competition, Mr. Frank Cant securing the premier place. Messrs. Prior & Son, Colchester, were second with very good blooms, though it is by no means certain they would have secured this position if another exhibitor had not destroyed his chance by the accident of two fine blooms of Mrs. Paul finding their way into his stands.

The open class for twelve distinct Teas and Noisettes brought stands of first-class quality, the two exhibitors last named occupying the same relative positions. The first prize varieties were Madame de Watteville, Niphetos, Ernest Metz, Madame Cusin, Innocente Pirola, Cleopatra, Maréchal Niel, The Bride, Madame Hoste, Marie Van Houtte, Catherine Mermet, and Jean Ducher. In the class for six blooms Mr. O. G. Orpen, West Bergholt, was first with particularly fine examples of Madame Hoste (awarded the N.R.S. silver medal for the best bloom in the open classes), The Bride, Maréchal Niel, Ernest Metz, Catherine Mermet, and Niphetos. Mr. E. N. Bunn, Harleston, and Mr. John Woods, Woodbridge, secured the remaining prizes in the order named with creditable stands. The remaining class in the open section was for twelve H.P.'s, trebles, the first prize for which was won by Messrs. Prior & Sons.

There was excellent competition in the amateurs' classes. The best eighteen distinct Roses were staged by Rev. J. H. Pemberton, Havering, Romford, who had fresh and good blooms of Her Majesty (very large), Lady Hill, Marie Baumann, Marquise de Castellane, Sir Rowland Hill, T. W. Girdlestone, Mrs. J. Laing, Madame Victor Verdier, Anna Ollivier, Comtesse d'Oxford, Prince Arthur, H. Schultheis, Charles Lefebvre, Etienne Levet, and E. Y. Teas. Mr. E. N. Bunn was second. In the class for twelve blooms there was good competition, Mr. Orpen securing first honours with Madame de Watteville, Charles Lefebvre, Maréchal Niel, Marie Baumann, Francisca Kruger, Innocente Pirola, La France, Climbing Captain Christy, Madame G. Luizet, Catherine Mermet, Princess of Wales, and Marie Van Houtte. Mr. J. Gurney Fowler was an extremely close second, and Mr. E. N. Bunn third. Mr. Pemberton won two special prizes in classes for six blooms, and Mr. Orpen secured the silver medal of the N.R.S. for the best bloom in the amateurs' classes with a wonderfully fine example of The Bride. He therefore won both the medals with Tea Roses. Some neat blooms were exhibited in the local amateurs' classes, but the staging was in many cases open to improvement.

It can only be said generally of the other sections of the Show that herbaceous flowers were well represented, Mr. R. C. Notcutt, Broughton Road Nursery, Ipswich, having a very fine collection; that table-decoration and bouquets made an admirable display, also that trusses of Zonal Pelargoniums were very good indeed. In the plant classes Lord Rendlesham's gardener exhibited well-grown Orchids, while Tuberous Begonias and Gloxinias were very good, but the groups of plants were too formal and crowded as a rule. Of small fruits, especially Strawberries, there was an extensive and admirable display. Vegetables of the first quality were staged, especially in competition for Messrs. Carter's and Sutton's prizes, and it may be said that all kinds were well represented in the several tents. The schedule contained 170 classes.

Mr. J. Andrews is the zealous Secretary of this evidently well managed Society, and he was ably assisted at the Show by Mr. W. Brinkley, the Honorary Assistant Secretary. Probably the Judge who was labouring under the geographical difficulties above indicated will be able to find his way to Woodbridge if he should happen to be commanded again.

WINDSOR.—JULY 7TH.

THE Windsor and District Rose Society is a new association. It owes its existence to Mr. C. Romaine, The Priory, Old Windsor, who, on being appointed local Secretary by the National Rose Society, bethought him that he might do a little more for Roses than the duties of that post entailed by founding a new body. It is meet that in the Royal borough there should be a special society devoted to the Royal flower, and Mr. Romaine's happy idea was taken up energetically. H.R.H. the Princess Christian headed an influential list of lady patronesses, the Rev. the Marquis of Normanby consented to become President, and a number of practical officials were appointed, the Committee consisting of Messrs. D. Challis, H. Godfrey, Guttridge, J. Lindsay, A. Sturt, H. Tomlinson, and A. Turner of Slough; Mr. E. F. Gribble acting as Treasurer, and Mr. Romaine as Secretary. All things being thus put into working order, it was decided to hold a Show this season, in order to give the new body a *raison d'être*, and to show that it was marking out for itself a career of usefulness. The opening Exhibition was held in the Albert Institute on the above date, and though a spacious hall was devoted to the Show it proved none too large for the occasion. Those connected with the Society have reason to be gratified with the first result of their labours, for the Show was an excellent one as a preliminary display, and it may be hoped that it will prove to be the forerunner of a long list of successes. The Exhibition was held under the rules of the N.R.S., with which body the Society is affiliated.

The Princess Christian visited the Show at 4 P.M., being conducted round by Mr. Romaine, and accepting a bouquet of Roses from Miss Romaine. The attendance was good throughout, and though the accounts were not made out at the time of our report being prepared, there will be a surplus to be carried forward.

The principal nurserymen's class was that for thirty-six blooms, distinct, single trusses, and in this there were three stands. The best was that from Mr. G. Prince, who could claim the not very common pleasure of defeating Mr. Frank Cant in the leading class, but to all appearances the latter's flowers had done service elsewhere. They were certainly past their best. Mr. Prince had lighter but much fresher flowers, the varieties being Alfred Colomb, Comtesse de Nadaillac, Exposition de Brie, Souvenir de S. A. Prince, Gustave Piganeau (very good), Lady Mary Fitzwilliam, A. K. Williams, The Bride, Sir Rowland Hill, Innocente Pirola, Prince Arthur, Catherine Mermet, Earl of Dufferin, Victor Verdier, Victor Hugo, Captain Christy, Fisher Holmes, Princess of Wales, Louis Van Houtte, Madame de Watteville, Beauty of Waltham, Niphetos, Xavier Olibo, Germaine Caillot, Sénateur Vaisse, Maréchal Niel, Prince Camille de Rohan, Jeannie Dickson (good), Chas. Lefebvre, Souvenir d'Elise Vardon, Horace Vernet, Etienne Levet, Merveille de Lyon, Madame C. Wood (very fine), Duchess of Bedford, and Mrs. John Laing. Mr. E. F. Such was third. Mr. Frank Cant won with eighteen Teas and Noisettes, being much more like himself in this than in the other class. His blooms were in beautiful condition, and won easily. The varieties were Niphetos, Madame Cusin, Hon. Edith Gifford, Souvenir d'un Ami, Innocente Pirola, Madame de Watteville, The Bride, Princess of Wales, Louis Van Houtte, Comtesse de Nadaillac, Maréchal Niel, Ernest Metz, Cleopatra, Souvenir de Paul Neyron, Souvenir de S. A. Prince, Madame Hoste, Ethel Brownlow, and Rubens. Mr. Prince was second, and though his flowers were neither so large nor so fresh as Mr. Cant's, they were very good.

In the principal amateurs' class T. W. Girdlestone, Esq., Sunningdale, won by many points. Eighteen blooms were asked for, and very bright well coloured examples of Louis Van Houtte, Souvenir d'Elise Vardon, Duke of Edinburgh, The Bride, Dupuy Jamain, Madame G. Luizet, Charles Lefebvre, Madame Bravy, Général Jacqueminot, Baroness Rothschild, A. K. Williams, Souvenir de S. A. Prince, Prince Arthur, La France, Ulrich Brunner, Merveille de Lyon, Gloire de Bourg la Reine, and Marquise de Castellane, gained him the award. Mr. C. Romaine (gardener, Mr. Guttridge) was second with much smaller but fresh flowers; and F. W. Flight, Esq. (gardener, Mr. W. Neville), third. C. J. Grahame, Esq., won with six of any variety, staging a good half dozen of Innocente Pirola; T. T. Strange, Esq., being second with Baroness Rothschild, and Mr. Girdlestone third with Hon. Edith Gifford. There was a very close contest between Mr. Girdlestone and Mr. Grahame with twelve Teas and Noisettes in not less than eight varieties, the former eventually winning. These were both extremely beautiful boxes. Mr. Girdlestone had a splendid bloom of Souvenir d'Elise Vardon in his stand. Mr. Romaine was third with somewhat small, but very fresh, neat flowers.

The local classes were well filled. In the principal one for eighteen blooms Mr. Grayer, gardener to the Duchess of Sutherland, won easily with fresh bright flowers, Etienne Levet being very good indeed. Mr. Sturt, gardener to N. L. Cohen, Esq., was second, and Mr. Popple, gardener to the Hon. Lady Stepney, third. These were both two flat. The silver medal of the N.R.S. for the best bloom in the local classes was awarded to Mr. J. Jones, gardener to Miss Davy, for a good Her Majesty. T. W. Wix, Esq., was first with twelve, Messrs. Paxton, gardener to the Hon. C. Irby, second, and Mr. Vince, gardener to F. Drummond, Esq., third. Mr. A. Briginshaw won with six, Messrs. Hargreaves and Vyse following. In other classes Messrs. Vince, Sturt,

Jones, Popple, Tindall, Hargreaves, and Grayer won prizes. The prizes for baskets went to Misses Curll, Romaine, and Mary Taylor.

The N.R.S. medal for the best Rose in the open classes went to Mr. Girdlestone for the fine Souvenir d'Elise before referred to, and which had also been selected as the premier flower are Bagshot the day before. Mr. Grahame's Innocente Pirola, which won the medal at Croydon on the previous day, was its chief rival. It was a splendid bloom, but a little past its best.

Messrs. J. Laing & Son had a collection of hardy flowers and a brilliant display of Begonias, Orchids, Caladiums, and other flowering and foliage plants, which were greatly admired. Mr. J. Smith sent Ferns, Messrs. Cutbush & Son sent a beautiful group of hardy flowers, in which *Campanula pelviformis*, *C. macrantha*, *C. persicifolia nitida*, *C. latifolia*, *Achillea Millefolium rosea*, *Centaurea macrocephala*, and *Eryngium amethystinum* were noteworthy amongst others. Mr. C. Turner exhibited a magnificent group of his superb Pelargoniums, Show and Faney, also many boxes of Roses, the whole producing a brilliant effect. Mr. Titt showed floral decorations, and Messrs. G. Jackman & Son had a beautiful display of Roses.

REIGATE.—JULY 9TH.

ALTHOUGH the weather was somewhat threatening at times rain did not interfere with the enjoyment of those who had assembled to inspect the Rose Show in Mr. T. B. Haywood's beautiful garden at Woodhatch on the above date. A more compact and enjoyable Exhibition, or one held under more delightful surroundings, it would be difficult to imagine. If any exhibitor not quite in the front rank entered under the expectation of finding a quiet corner and returning home laden with prize money he must have received a rude re-awakening, for the southern giants were there almost to a man, and what is more, they were showing in their finest condition. Mr. Frank Cant, continuing his phenomenally successful career this season, almost swept the board in the open classes, staging magnificent blooms. His Suzanne Marie Rodocanachi in the first prize stand of forty-eight was a wonderful example, the brilliant and glowing colour being beautifully brought out, combined with great size and fine form. Superb, too, were Mr. Lindsell's flowers. A stand of greater proportionate merit than his winning eighteen has not been exhibited for many years. Dr. Budd was most unfortunate in having to meet so entirely exceptional a box, for he had some beautiful flowers, and is clearly making marked improvement.

The principal class was that for forty-eight varieties, and Mr. Frank Cant added another to his long list of victories, winning with a very beautiful stand. His flowers were large, full in colour and in admirable condition. The varieties represented were Her Majesty (a fine bloom), Marie Baumann, John Hopper, Alfred Colomb, Lady Mary Fitzwilliam, Lady Helen Stewart, Souvenir d'Elise Vardon, Pride of Reigate, Heinrich Schultheis, Mrs. Harry Turner (very good), Madame de Watteville, Duke of Teck, Souvenir de S. A. Prince, Dupuy Jamain, Ernest Metz (a beautiful flower), Duke of Edinburgh, Souvenir d'un Ami, Prince Arthur, Germaine Caillot, Dr. Andry, Madame Cusin, Chas. Lefebvre, Mrs. John Laing, Marie Rady, Comte de Raimbaud, Chas. Darwin, Merveille de Lyon, Gustave Piganeau, Comtesse de Nadaillac, Duke of Wellington, Caroline Kuster, Suzanne Marie Rodocanachi (a magnificent flower), The Bride, Comtesse d'Oxford, Catherine Mermet, Earl of Dufferin, Niphetos, Star of Waltham, Baroness Rothschild, Horace Vernet, Madame Lambard, Sultan of Zanzibar, Margaret Dickson, Chas. Lamb, Marie Verdier, A. K. Williams, Cleopatra and François Louvat. Many points behind, but still with a very good stand, came Mr. B. R. Cant. His flowers were very even in merit, perhaps the best being a lovely bloom of Ethel Brownlow, one of the best flowers in the show. Messrs. G. Paul & Son were third with small but neat and fresh examples.

For twenty-four varieties Mr. Salter, gardener to T. B. Haywood, Esq., was a good first. He had very fine blooms of Marguerite de St. Amand, Général Jacqueminot, Countess of Rosebery, and Countess of Oxford, but all were very good. The Rev. J. H. Pemberton was second with a lighter stand, in which Her Majesty, Horace Vernet, and Duchess of Bedford were the most conspicuous. Mr. Brown, gardener to Mrs. Waterlow, was third, with Her Majesty and Etienne Levat very good.

Teas and Noisettes were very finely shown by Mr. Frank Cant, who was first in the class for eighteen varieties with Ernest Metz, Souvenir d'Elise Vardon, Innocente Pirola, Madame Hoste, Anna Ollivier, The Bride, Madame Cusin, Maréchal Niel, Catherine Mermet, Niphetos, Ethel Brownlow, Jean Ducher, Madame de Watteville, Comtesse de Nadaillac, the Hon. Edith Gifford, Madame H. Jamain, Caroline Kuster, and a very fine Souvenir de S. A. Prince. Mr. G. Prince was a close second with neat fresh blooms, though somewhat undersized, and Mr. B. R. Cant third. Mr. Frank Cant scored yet another victory with trebles, having very heavy and fresh blooms. Her Majesty, Suzanne Marie Rodocanachi, Marie Baumann, and Alfred Colomb were all excellent. Mr. B. R. Cant came second with smaller flowers, and Messrs. Prior & Sons third.

There were some superb blooms in the amateurs' division. Mr. E. B. Lindsell had a magnificent stand of eighteen varieties, the blooms being of great size and perfectly fresh. The varieties were Marie Baumann, La France, Abel Carrière, Caroline Kuster, Gustave Piganeau, Mrs. J. Laing, Horace Vernet (very fine), Ulrich Brunner, Dr. Sewell, Catherine Mermet, Earl of Dufferin, Her Majesty (very fine), Madame V. Verdier, Niphetos, Dupuy Jamain, Marie Verdier, Duke of Edinburgh, and Suzanne Marie Rodocanachi. There have been few finer stands shown than this. Mr. S. P. Budd was second, also with a strong stand, but far behind Mr. Lindsell's; Alfred Dumesnil, Mrs. John Laing, Her Majesty,

and Comte de Raimbaud were the best blooms. Mr. A. Tate was a highly creditable third. Mr. Budd had the best of several fine stands of six trebles, his flowers being in every respect admirable. Mr. Tate was second, and Mr. Lindsell third. With twelve of one variety the latter won, showing a very neat stand of Caroline Kuster. Mr. H. M. Bethune was second with Madame Gabriel Luizet, and Mr. A. Slaughter third with Alfred Colomb.

Teas were splendidly shown by Mr. Lindsell. He had an exceptionally beautiful stand of twelve, the varieties being Innocente Pirola, Jean Ducher, Caroline Kuster, Madame Cusin, Niphetos, Catherine Mermet, The Bride, Marie Van Houtte, Etoile de Lyon, Madame Margottin, Souvenir de S. A. Prince, and Comtesse de Nadaillac. Mr. Budd followed, also with a charming stand, and Mr. T. W. Girdlestone was third, the Rev. A. Foster Melliar being commended.

In the third division there were also good blooms, and plenty of competition. The Rev. H. A. Berners won with twelve, Mr. Gurney Fowler being second, and Mr. O. G. Orpen third. Mr. Berners also won with four trebles, Mr. C. E. Cuthell second, and Mr. E. Mawley third. Mr. Orpen had a delightful stand of nine Teas, and scored a highly meritorious win, Mr. Berners being second, and Mr. P. G. C. Burnand third. Mr. H. Shoesmith, gardener to M. Hodgson, Esq., won with six blooms, Mr. J. De la Mare second, and Mr. W. D. Freshfield third; the latter won with six Teas, Messrs. Shoesmith and J. De la Mare following. A neat stand of Marie Van Houtte won Mr. Burnand the first prize for nine blooms of one variety, Mr. Cuthell being second with Marie Van Houtte, and Mr. Berners third with Eclair. Miss Watney received the first prize for table decorations, Iceland Poppies being the only flowers utilised. Miss Beatrice Lorent was second, and several others were commended. Miss Horne had the best basket of Roses, and Miss Nicholson the second best. Garden Roses, as shown by Messrs. Tate and Girdlestone, were delightful. The exhibitors named were placed equal first. Messrs. Cheal & Son and Messrs. J. Peed & Son had beautiful miscellaneous displays.

WOLVERHAMPTON.—JULY 12TH, 13TH, AND 14TH.

A GREAT Show opened at Wolverhampton on Tuesday, of which Roses, perhaps, formed the chief feature. The display was a magnificent one, certainly the best of the season up to date. Only the names of the winners in the chief classes, or such of them as could be obtained at the moment, can be given, and are as follows:—

In the open class for seventy-two Mr. B. R. Cant won with magnificent blooms, combining weight, freshness, and form in a remarkable manner. Mr. Frank Cant was second with beautiful stands, but the blooms as a whole a trifle smaller. Messrs. Harkness & Sons, Bedale, were third with somewhat smaller but almost brighter examples.

In the open class for forty-eight blooms Mr. B. R. Cant was again first; Messrs. Prior & Sons, Colchester, second; Messrs. Cooling and Sons, Bath, third; and Mr. Merryweather, Southwell, fourth, all staging blooms of very high quality in a splendid competition. In the open class for thirty-six blooms, the Rev. J. H. Pemberton, Havering, was first with delightfully fresh examples in admirable colour; Mr. Frank Cant, second; Messrs. Perkins & Sons, Coventry, third; and Mr. B. R. Cant fourth.

Mr. B. R. Cant was first with twenty-four blooms, Messrs. Prior and Son second, and Messrs. Cooling & Sons third. In the class for twelve Teas the prizes were adjudged to Messrs. B. R. Cant, Prior and Son, and Merryweather in the order of their names.

In the twelve dark blooms class Messrs. Cooling & Sons were first with A. K. Williams, Messrs. Prior & Son second with Horace Vernet, and Mr. B. R. Cant third with Gustave Piganeau. In the light class Messrs. Alex. Dickson & Sons were first with Margaret Dickson (splendid blooms), Messrs. Prior & Son second with Mrs. Laing, and Mr. B. R. Cant third with Ernest Metz.

Messrs. Alex. Dickson & Sons exhibited twelve blooms of a new Rose, Mrs. W. J. Grant, deep rose with broad, smooth, shell-like petals, deepening to salmon at the base. It is a Rose of promise, and a first-class certificate was awarded.

It may be added that in the class for ten dishes of fruit Mr. McIndoe was first, Mr. Bannerman a close second, and Mr. Edwards third. Mr. Bannerman was first in the class for six dishes, his Black Hamburgh Grapes being very fine indeed. Certificates were granted to Mr. W. Allan for Lord Suffield and Gunton Park Strawberries. Further reference will be made to this extensive provincial Exhibition another week. The Mayor of the town is the President of the Society, and Mr. W. A. Green, jun., the indefatigable Secretary.



FRUIT FORCING.

Vines.—*Vines in Pots.*—Those intended for early forcing—that is, to be started the first week in November for ripening the fruit in March or early April, should by this time have completed their growth, and must not have any more water than will prevent the foliage from becoming limp. Expose fully to light and sun, so as to thoroughly

ripen the wood and the buds. If the laterals have been allowed to extend with a view of thickening the cane, they must be brought back gradually by cutting away part at a time, reducing each by degrees to one leaf. The Vines should be kept free from insects, syringing occasionally if red spider appear, for it is important that the leaves should perform their functions. When the wood becomes brown and hard place the Vines on a board or slates in front of a south wall, securing the canes to its surface to prevent the foliage being damaged by wind. Afford water only to prevent the leaves flagging; cut away the laterals close to the cane, and in a few days shorten the cane to the length required. The principal leaves must not be injured, but left to die off naturally. The best varieties for early forcing are White Frontignan, Foster's Seedling, Black Hamburgh, and Madresfield Court. Later plants should be encouraged to perfect a good growth, keeping them clean, also exposed to all the light and sun possible. They must not be over-watered, nor neglected for due supplies of water or liquid manure. Cut-backs are much the best for early forcing, as the Vines make an earlier and sturdier growth, and perfect it sooner than others. This is important, for the Vines have more rest, and start with greater regularity.

Early Forced Planted-out Vines.—It is not desirable to force Vines year after year to ripen their crops before May or June, and houses which are started in December or at the new year to afford ripe fruit at the times mentioned are best planted with varieties that ripen together, the houses being of sufficient size only to admit of a supply of Grapes for the establishment for a period of not more than six to eight weeks. That is as long as black Grapes will hang on the Vines under a June and July sun without turning red, or white Grapes keep from becoming brown on the exposed side of the bunches, even when a slight shade is afforded from sun. Such an arrangement admits of the foliage being cleansed with water from a syringe or engine, but in a house planted with White Frontignan, Foster's Seedling, Buckland Sweetwater (not satisfactory when continuously early forced), Mill Hill Hamburgh, Black Hamburgh, and Madresfield Court, to ripen their crops in May, Muscat of Alexandria in June, and Gros Colman with Trebbiano in July, the warm and comparatively dry atmosphere, consequent on the constant ventilation essential to ripen the fruit of the early varieties, causes red spider to increase upon the foliage of the Muscats and other late sorts before they are ripe, whilst the foliage of the early varieties is almost all gone by the time the late sorts have the Grapes fit for table. This is most disastrous to present and future crops of Grapes, indeed mixed collections of Grapes are not satisfactory. It is far better to divide a large house into two or three compartments, so that the respective kinds may have their proper treatment. Early Vines that ripened their crops in May or early June will soon be cleared of Grapes. They should then be thoroughly cleansed, employing an insecticide if necessary, and the foliage preserved in health as long as practicable by occasional syringing, removal of the roof lights in showery weather, full ventilation constantly, and due supplies of water or liquid manure at the roots.

Muscats Ripening.—Unless the season is exceptionally fine and the Vines started early Muscats require fire heat to insure their perfect maturation, even when ripening at the hottest part of the year. The time taken by Muscats to ripen is never less than eight or nine weeks from commencing to colour, and if the Grapes are extra fine and the Vines vigorous perfect finish is not generally had under three months. They require time and assistance from fire heat, so as to secure a night temperature of 70° to 75°, 85° to 90° by day, with abundance of air. A rather dry atmosphere is essential to the attainment of that golden hue characteristic of rich and full Muscat flavour. This is secured by free ventilation, a little constantly, but the atmosphere must not become arid, damping down occasionally. In large houses the moisture arising from the borders is enough, except in hot weather, then the available surfaces in the house should be damped daily. Too much atmospheric moisture is fatal to Muscats when ripening, causing them to "spot," therefore it is necessary to have a gentle warmth in the hot-water pipes, and a little air constantly to prevent the deposition of moisture on the berries. Abundant supplies of water must be given at the roots, for when there is a deficiency of moisture the Grapes shrivel. With the borders properly constructed and the drainage thorough too much water can hardly be given at the roots after the leaves are full sized until the Grapes are well advanced in ripening. Needless waterings, however, are baneful, and dribblets—mere damping of the surface—very ineffective, doing quite as much harm as good.

Young Vines.—Those planted this season should, provided they are to be cut back to the bottom of trellis, or to two or three buds at the winter pruning, be allowed to grow unchecked, so as to secure a good root formation and sturdy stems. Any Vines intended for next year's fruiting should have the laterals issuing from the side of the buds to which they are to be shortened, stopped to one leaf, and the principal leaves kept free of growths. If permanent Vines the cane need not be stopped until it has grown to the top of the house, shortening it at the winter pruning to three good buds from the bottom of the rafter or trellis, and only allowing each Vine to bear a bunch of Grapes in the second year to prove the variety. Supernumeraries intended for next year's bearing should be stopped at a length of 7 or 8 feet, pinching the laterals to one leaf, and sub-laterals in like manner. These should be shortened in September, and by degrees cut away close to the cane, and in a fortnight afterwards the Vines should be pruned to the first plump bud below the first stopping, leaving the old leaves to die off naturally. Thorough ripening of the wood is important, a free circulation of air being necessary, with fire heat if the weather be cold and wet.

Melons.—Stopping and Removing Growth.—The plants grow rapidly when the weather is moist and warm, and should be gone over once a week at least, and in the case of vigorous plants twice, for stopping and removal of superfluous shoots, the principal leaves being fully exposed to light. Overcrowding is the greatest evil in Melon culture, because the excessive foliage must be thinned, and its removal results in exudation from the wounds, gangrene sets in, and the affected parts perish through "wet rot" (bacteria and bacillus growths). To arrest these antiseptics must be used. The safest is quicklime, rubbing it well into the affected parts, and repeating as necessary. But the worst effect of removing a large quantity of growth is giving a check to the fruit, not unfrequently causing it to cease swelling, and it becomes hard in the flesh. Fungoid germs fasten upon the exudation, and the fruit decays when it should ripen. These disasters are generally preventable by attending to the thinning and stopping of the growths. Therefore, when the fruit is set and has swelled to the size of an egg, the laterals should be pinched to one leaf, and if this results in too much foliage, so that the leaves upon the primary shoots are crowded or shaded by them, thinning must be resorted to, removing a little at a time.

Watering.—This is very important in Melon culture. If the plants are kept too dry a check has been given which will cause them to collapse before the fruit is fully developed, and that ripens prematurely. The great point is not to allow flagging at any time, and yet not to give water until the soil is getting rather dry, when a thorough supply should be given. Plants with a large extent of rooting space need water or liquid manure once a week, those with lessened rooting areas twice a week, and those in pots or boxes once or twice a day. Regard must be had to the weather and the actual needs of the plants. When setting and ripening it will be sufficient to just keep the foliage from flagging, and if watering is necessary it should be given without wetting the surface more than can be avoided.

Damping and Syringing.—At the time of setting and ripening moisture must not be entirely withheld from the atmosphere, but available surfaces may be damped in the morning and early afternoon, or occasionally only in not very bright weather. When the blossoms are about expanding withhold water from the foliage, and when the fruit is ripening it must not be wetted nor a close moist atmosphere kept, as those are fatal to flavour, and often the cause of the fruit cracking. With the fruit swelling syringe well at closing time, and if morning syringing is practised it should be done early, but the liberal damping of available surfaces is better than wetting the foliage. Plants in frames should be sprinkled overhead at closing time, being careful to keep the water from the neck or collar of the plants.

Temperature.—In most cases fire heat is not now required, as with due regard to early closing the night temperature may be kept from falling below 65°. In dull periods, however, a little fire heat may be desirable to maintain a buoyant atmosphere when the fruit is setting or ripening. Plants in frames at those times are better for linings, so as to allow of a circulation of air, otherwise the temperature will be ruled by external conditions, yet it ought to be maintained at 65° at night and 70° to 75° by day.

Ventilating.—It is a good plan to leave a little air on at night in all cases, and increase it early in the morning of fine days when the temperature has advanced to 75°, and gradually increase it with the rising heat, keeping through the day at 80° to 90°, and closing sufficiently early to rise to 95° or 100°, and before nightfall admit a crack of air at the top of the house. When the fruit is ripening admit air freely, also when setting, leaving a little on constantly to prevent the deposition of moisture on the fruit or blossoms through the night.

Routine.—Put supports to the fruit before they get heavy, letting the board slant so as not to hold water. Place slates beneath the fruits of plants in frames, raising them as the Melons advance in swelling on inverted flower pots above the foliage. After a period of dull weather it is desirable to afford a slight shade for a few hours in the hottest part of the day to prevent the foliage flagging and tender fruit from being scorched. A slight shade is useful over fruit in the ripening stage when it is exposed directly to the sun, especially when the plants do not, from indifferent vigour, supply moisture to the fruit freely.

Insects.—Black aphids sometimes becomes troublesome. The best remedy is fumigation with tobacco paper on two or three consecutive evenings, taking care to have the foliage dry and to deliver the smoke cool. Avoid an overdose, and mat up frames to keep in the smoke. The Lethorion Vapour Cone kills red spider, even mealy bug, and "unfixed" scale without any damage to the tenderest foliage, but these pests never ought to be present in well managed Melon houses or frames. Thrips yield to tobacco smoke. Canker is caused by damp in many cases, but it is inherent in some varieties. It is averted by a drier atmosphere or freer ventilation, and rubbing quicklime into the affected parts until dry, repeating if necessary. By those means the plants can generally be kept alive until the crop is perfected.

THE KITCHEN GARDEN.

Asparagus.—Where at all exposed to gales of wind the strong growths of Asparagus are liable to be blown down and either dislocated at the junction with the roots or badly fractured. In either case their function, viz., forming strong buds, is greatly interfered with, and as a consequence the young shoots next season will not be nearly so large as they would otherwise have been. Those planted widely apart, whether on the level or in raised beds, are the most likely to be damaged, and these, at any rate, ought to be supported by stakes. Hand-weeding

between the Asparagus generally should be frequently resorted to, thereby saving much future labour. Allowing weeds to seed in these positions is most unwise. If salt is applied to Asparagus on heavy soils it should be done in the summer just in advance of a rainfall, and a light surfacing of this fertiliser may with advantage be given in the case of any on lighter soils, and which may have had a spring dressing. Other manures, notably guano, applied now and washed in by rains or the hose would also be most beneficial. Removing the seed, which forms only too freely in some instances, is tedious, but is considered beneficial, especially to weakly plants. It is a mistake, though, to cut out seeding growths if at all numerous, as in this case there may be but few other growths to form the buds that are to produce stronger shoots next spring.

Beans.—It rarely pays to sow Broad Beans in July, but if particularly desired there is no good reason why a row or rows each of Beek's Dwarf Green Gem and Early Longpod should not be sown. The former, being of low branching growth, is well adapted for warm borders, and can be readily protected if necessary. Kidney Beans are not greatly in demand while Runner Beans are plentiful, but a late sowing may give some very acceptable dishes in September. These may well follow Potatoes, Cauliflowers, Lettuces, or other early crops on sheltered sunny borders. Sow Canadian Wonder now thinly, in rows 2 feet apart, and Sion House or Ne Plus Ultra later in the month, a distance of 18 inches apart being enough for these. Any Kidney Beans that are to give a crop of ripe seed should be kept clear of the ground by means of Hazel or other spray. It is advisable to thin out the plants freely, leaving them 12 inches apart, also staking them when long straight exhibition pods are required. Overcrowding Runner Beans is a common error, but one that ought to be avoided. One plant to a pole is ample, and these ought to be fully 12 inches apart in the rows. For a time they require attendance in the shape of regulating and making the growths secure, and later on, or when the tops of the poles are reached, pinch out the points of the leaders, thereby preventing their becoming top-heavy—stopping the leaders also greatly strengthening and improving the productiveness of the lower part of the haulm. Those grown entirely without stakes should have all running growths kept closely snipped out. Runner Beans must have plenty of moisture at the roots, liquid manure also being most beneficial. Do not allow large numbers of old pods to hang, as they have a most weakening effect on the plants. If exhibition pods are required thin out freely, selecting and reserving the best shaped pods, and feed well at the roots.

Cabbage.—About the middle of July is rightly considered the best time to make a first sowing of that excellent Cabbage, Ellam's Dwarf Spring, and there are other varieties that also succeed well if sown thus early. It is not advisable to rely solely upon one sowing, the better plan being to divide the packets and sow again a fortnight or three weeks hence. The plants ought to be raised thinly so as to avoid any necessity for pricking out, and well in the open in order that they may be very sturdy. The ground should be got into a perfectly fine condition, and if at all dry a good overnight watering would greatly facilitate the work of forcing down the lumps. If shallow drills are opened 4 inches apart, gently moisten them and then sow the seed thinly, covering with fine soil. The plan of sowing broadcast has much to recommend it, but it is a mistake to attempt raking in the seed. Instead of this sow the seed thinly on the surface of well moistened ground, and then lightly cover with sifted soil. Net over in order to keep birds away and protect the young plants from slugs and fleas by means of occasional dustings with soot and lime.

Endive.—That early sown is almost certain to run to seed prematurely, but such is not often the case with the plants obtained by sowing early in July. By that time a good breadth of early Potatoes are lifted in most fairly warm districts. If a portion of the ground thus cleared can be devoted to Endive no better site can be found. Advantage ought to have been taken of a showery time to get the ground into a finely divided state, and the seed can then be sown at any time. Should the intended seed bed be hard, dry, and lumpy well water it overnight and it will crumble to pieces readily the next morning. A good form of Green Curled and the Broad-leaved Batavian are all the varieties that need be sown, the latter being the latest and much the best for winter use. Large seed beds are desirable, and then if a portion of the plants are left undisturbed these will be the first ready for use. Sow thinly in drills 6 inches apart or broadcast, and cover with sifted soil. Any raised earlier ought to be lightly thinned out where at all crowded, and when large enough to transplant give a good watering if at all dry, and also well moisten the intended site prior to pulling out the plants. They will require to be frequently watered during dry hot weather, and it will much simplify matters to plant in rather wide drills. The Moss Curled may be put out 6 inches apart each way, but the Green Curled forms should be arranged 9 inches apart in rows 12 inches apart.

Late Peas.—If newly saved seed or good old seed of either William I., Chelsea Gem, William Hurst, or English Wonder is sown about the middle of July there is every likelihood of a few serviceable late dishes being had. Sometimes or in some gardens sowings made as late as the end of July pay well for the trouble taken with them, and in warm localities Omega, sturdy and other late varieties sown at the present time do good service. Sow the dwarf varieties mentioned on a warm border in rows 18 inches apart or on the Celery ridges, and they can be readily protected from early frosts, frequently succeeding surprisingly well.

PLANT HOUSES.

Crotons.—Pot all free-growing plants that are well furnished at the base into 7 and 8-inch pots, or even into larger if plants in these sizes

can be employed for furnishing. Plants that have become too tall may have their heads re-rooted, so that well coloured side shoots will be produced for striking later in the season. Where quantities of decorative plants with ornamental foliage are needed in rooms during the winter months too many Crotons in various sizes cannot well be produced. We have always a good stock of highly coloured plants in 2 and 3-inch pots, which are most useful for association with Ferns, Mosses, and other dwarf growing plants. Do not shade the plants, but expose them fully to the sun, so that their rich colours can be developed. Syringe them liberally, and close the house early in the afternoon. Give a little artificial manure to the surface of those that it is necessary to keep in certain sizes when they are full of roots.

Dracænas.—Where plants are becoming too large and have lost their lower leaves the stems may be cut and mossed. In a close moist atmosphere they throw out roots quickly, and may be taken off with good balls, and placed at once in 6 and 7-inch pots, according to the variety. If placed in the shade for a fortnight good well-furnished plants are again produced. Where narrow leaved kinds are appreciated for table decoration *superba* is one of the best. To have really good plants those raised from portions of the stem need to be grown strongly and the top re-rooted before plants can be had in their best condition. The same remark applies to *Guilfoylei*, and when well grown it is a very handsome table plant. To colour these plants highly they must be exposed to plenty of light, but this must not be overdone, or their foliage becomes too highly coloured, and is liable to go bad at the points. Young stock raised from portions of stem this spring and well established in 3 and 4-inch pots should be placed into larger ones. It is a great mistake to allow plants that it is intended to grow on to become root-bound before they are repotted. Plants checked by this cause seldom do any good afterwards. These plants need careful watering for a time after potting until they are rooting freely in the new soil. The same treatment should be given to green varieties that can be grown in a lower temperature; but if well-developed plants are needed as soon as possible they may be grown in heat during their early stages, or until they are large enough for the purpose for which they are required. *Dracænas* do well in equal parts of fibry loam and leaf mould, with one-seventh of manure and a liberal quantity of coarse sand. Peat may be substituted for the leaf mould if plentiful.

Ixoras.—Plants that have flowered may have their shoots slightly shortened back. Well shorten those that have failed to flower. The plants should be thoroughly cleaned if they need it, and then started again into growth in brisk heat. They will come into flower again, and be useful towards autumn. Shoots that have not flowered may be inserted in small pots, and rooted in brisk heat in the propagating frame. These will make useful plants for flowering early next year in 4 and 5-inch pots.

Allamandas.—Plants growing in pots will have filled them with roots by this time. If they are to continue producing the largest size flowers a liberal top-dressing of manure must be given them, the roots will soon take full possession of it. Liquid manure may also be given in a weak state every time the plants need water. Do not allow them to become dry; the object should be to keep them growing, then they will continue to flower. Do not shade the plants, but grow them fully exposed to the sun. The reason these plants make vigorous growth, and often fail to flower profusely, is due to overshadowing.

Stephanotis floribunda.—Plants that have been trained upon trellises and have done flowering should be taken off and cleaned. If they are to flower well another year train the growths under the roof of a light house, where they will be fully exposed to the sun, and where air can be given freely until September. In this position the wood will become thoroughly ripened, and the plants will flower well another year. If kept closely trained upon trellises the whole season the wood has but a poor chance of being well ripened. Plants that are growing freely may have weak stimulants every time water is needed if the pots in which they are growing are full of roots. If mealy bug exists upon the plants syringe them occasionally with petroleum and water, 3 ozs. of oil to four gallons of water. Shade for a few days afterwards until the oil has been evaporated.

Clerodendron fallax.—Plants raised from seed and well established in small pots may be placed into 5 and 6-inch. Once they are fairly established in these pots and have been gradually hardened they will do in cold frames, providing they are kept close and closed early in the afternoon, so as to run up the temperature.

Asparagus plumosus.—Young plants raised from cuttings and well established in thumbs may be placed into 4-inch pots. In this size they will make bushy little plants. Those in 4-inch pots may be placed into 6-inch. This variety in small pots is very useful for decoration, especially for grouping with other plants in large conservatories.

Fittonias.—A good stock of these may be raised in small pots. They are useful during the winter. When once they are rooted they will grow freely under the shade of Crotons, *Dracænas*, and other plants where it is warm and moist.

Panicum variegatum.—Well furnished plants in 4 and 5-inch pots are always useful where furnishing is carried out on a large scale. A number of pots should be made up at once by inserting cuttings thickly into the sizes required. They root readily in any warm, moist, shady place.

TRADE CATALOGUE RECEIVED.

Messrs. Dammann & Co., San Giovanna a Teduccio, near Naples, Italy.—*Bulbs, Roots, and Orchids.*

THE BEE-KEEPER.

APIARIAN NOTES.

A SECOND swarm issued from a Punic stock five days after the first one, and took along with it perhaps a score of queens, being about a tenth of what were in the parent stock. These surplus queens of the second swarm distributed themselves freely amongst my other stocks, and I picked out about a dozen queens after from it. I then sprayed the bees well with thin syrup till they were well gorged, and with an iron spoon, and sometimes in handfuls in front of some half dozen Carniolan nuclei, and not a bee was killed. The queens that took refuge in other hives, with one exception, were all killed by the bees. The one in which the queen was preserved had a royal cell of its own, and, in addition to the one Punic retained, two others were killed. It is a valuable lesson to all bee-keepers.

TO PREVENT AFTER SWARMS.

I have for many years taught and practised this system. Some of your readers will remember my recorded experience some eight years ago with Cyprians. Punics, Cyprians, and Syrians raise an excessive number of queens, and so do other varieties, but not to the same extent. Still all after swarms of any and every variety have at times an excess of queens, and all are alike liable to enter other hives. Sometimes they are killed, while at others they are allowed to live, and in one case it was not thrown out of the hive for several months after. Then, again, whether the hive has queen cells only, or a regnant queen, with the hive partly full of bees and combs, a swarm will issue, to the great annoyance of the bee-keeper. Such erratic movements have occurred frequently in my apiary.

RETURNING AFTER CASTS.

Do not suppose that the returning of after swarms immediately after they have been secured, or allowing them to stand close to the parent hive till next morning, and uniting the swarm to it, will stop swarming. It may please a novice, but in most cases the hive will send off one or more swarms. Bees jealously guard their royal cells, and when this is going on detachments are formed, which create the frenzy characteristic of bees at swarming time, and swarm they will, weather permitting, while queen cells or queens are in the hive. The bee-keeper who does not take the necessary steps to remove surplus queen cells at the proper time will be the loser. When all is going well the eighth day after the issue of the first swarm is a good time, but it is better a day or two earlier, as it will make things more sure. With frame hives the bee-keeper should not resort to returning swarms on the primitive straw skep style.

DESTROYING THE CELLS.

This is much quicker and more satisfactorily done than watching for after swarms, hiving them often with great difficulty, then uniting them with the chance of their taking wing, as they often do when shaken, and if successful swarm again after all the labour.

SELF HIVERS.

These, so far as I have ascertained, are unsatisfactory. The whole swarm does not join with the queen; besides, the drones are worried to death, giving the bees much labour in their vain endeavour to carry them through the perforated zinc, which also hinders the bees greatly in getting out and into the hive. If self hives are to do what is claimed for them they must be made so that the queen and bees will be intercepted in their natural retreat—that is, under the alighting board. A box serving as that must take its place, having wide grooves on the top to allow the queen and drones to pass. When returning the bees will follow, when the box may be removed, and bees placed in a hive on the

site of the old stock. The entrance to the stock hive should be fitted with a cottage gardener's bee trap the full width of the entrance, regulated so that bees can enter the hive on their return from the fields, but to prevent the queen or drones over this box or landing board a cage of queen excluder zinc must be placed, showing a large surface so as not to hinder bees more than is necessary. But, after all, artificial swarming will not give a tithe of the trouble, time, and expense self hivers will, and will be far more satisfactory.

QUEENS BY POST.

In common with many others I was highly pleased to see that "A Hallamshire Bee-keeper" has managed to get the Postmaster to make concessions in the transmission of queens by post, managing what nearly every prominent bee-keeper in this country had failed to get. It was only after great labour that the Americans succeeded.

I could scarcely believe that any gentleman in England cognisant of that fact would from mere personal feeling attempt to deprive bee-keepers of the privilege, at the same time pretending friendship to them. As we prove the purity of metals by modicums, so do we judge and prove men by their little or petty tricks. I trust bee-keepers will be able to recognise their true friends in the future by their past conduct.—A LANARKSHIRE BEE-KEEPER.



* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

The Rating of Market Gardens (G. W. J.).—The point you raise is one on which a lawyer should be consulted, and we shall be glad if you will let us know the purport of his reply.

Herbaceous Plants (B.).—Lilies and other bulbous plants are herbaceous, as are all plants which die down in the winter and grow again in the spring or summer. Strictly speaking, herbaceous plants are those perennials which are the reverse of woody.

Stopping Young Vines (T. S.).—You must not stop the young rods now. Let them grow as much as possible this summer. They will, however, require cutting back during the winter, when pruning the Vines; but if you write again giving full particulars of their condition then we shall be pleased to advise you further.

Woodlice in Mushroom Bed (J. W., Armley).—Procure some old dirty decayed boards, place them face to face in pairs, lay them on the bed and by the side of it, and cover them with litter. Woodlice love to lurk between the boards, and if these are examined occasionally the numbers of the enemy will soon be thinned. For the other insects mix 2 ozs. of salt in a gallon of tepid water, and apply it to the beds. If these methods do not answer to your satisfaction write again.

Red Spider on Cucumbers (York).—When badly infested with red spider Cucumbers seldom recover their normal health. Perhaps you would do best by pulling them out and making a fresh start with strong young plants. These would fruit freely in the autumn in a heated house. Still, if you wish to give the old plants a chance cut off the worst leaves and syringe the remaining ones with a solution of softsoap at the rate of 2 ozs. of soap to a gallon of water, or any of the insecticides advertised in this Journal, taking care to wet the under side of the foliage. After applying the insecticide syringe vigorously with clean tepid water. Top-dress the roots with fresh soil, and maintain a moist warm atmosphere to induce fresh growth.

Repotting Eucharis (F. C.).—Early spring is the best time to divide and repot large plants of Eucharis, although it may be done at

the present period. In your case, however, it would be advisable to defer the operation until February or March. If retained in the pots they now occupy and judiciously supplied with liquid manure the plants will, if healthy, flower much more freely than if repotted now. *Eucharis amazonica* will thrive in a compost of fibry loam, a little leaf mould, and sand. It is by no means a good plan to disturb *Eucharis* unless really necessary; if yours are healthy and flower satisfactorily leave them alone.

Raising Vines from Seed (*F. C.*).—The best way to proceed is to sow the stones as soon as they are taken from the ripe fruit, placing them singly in 3-inch pots filled to within half an inch of the rim with fine soil, placing a seed in the centre half an inch deep. Keep just moist in a house from which frost is excluded, and at the end of January or early February place in heat, keeping moist. The seedlings will soon appear, and should be grown near the glass, shifting from the 3-inch to 5-inch, and from those to 7-inch pots, which will be sufficient the first season. If you have convenience, the pots containing the seeds may be placed in heat as soon as sown, growing as rapidly as possible, and planting the seedlings out in a position in spring, so as to secure a strong and well-ripened cane, when it may fruit in the second year. If raised and grown a year in pots it is better to plant the Vines out than attempt to fruit them in pots, or graft them on to existing Vines. This is safely effected on the young wood by inarching, and the varieties come more in character and sooner when grafted than on their own roots. If the seeds are kept until spring and become dried some of them may lose their vitality.

Marantas for House Decoration (*L. J.*).—Marantas are not amongst the most useful plants that can be grown for the embellishment of rooms. We have long since discontinued their use for this purpose. They enjoy a close, moist, warm, and shady atmosphere, and when used in rooms they soon become so seriously checked that a long time must elapse before they are again in good condition. The old *M. zebrina* is certainly the best of them for rooms, as it is not easily killed; but even this plant is not so suitable as a good plant of *Aspidistra lurida variegata*. *Araucaria excelsa* is one of the most useful plants that can be grown for rooms. We find *Caladiums* invaluable from June to September. These are grown in from 4 to 7-inch pots, pushed on in heat until they are well developed, and grown well exposed to the light, so that they are sturdy. They are then given vinery treatment for a time, then nearly a cool house, after which we find they stand well in rooms. We certainly prefer them to Marantas. The old *Alocasia metallica* in a small state is useful for rooms, because a large stock can be so quickly obtained. If the plants you use at present are confined to Palms and Ferns almost exclusively we shall be pleased to give you a list of suitable plants if you write to us again. But we do not advise you to grow Marantas for the purpose.

Insects on Peach Shoots (*Killmright*).—The shoots have been badly infested with brown fly (*Aphis persicæ*). Before reaching us the parasites had left their "seats" on the young wood and leaves and spread over the inside of the box, and were crushed or starved to death. The case is a bad one, the worst we have seen, and the ordinary cleansing agent does not appear to have been employed—namely, forcible syringing with clean water, for the shoots have been infested the greater part of their length. The insect is rather difficult to deal with, as it fastens on the growing points of the shoots and basal parts, as well as next the midribs of the leaves, and clings persistently to the place of attack. Indeed, the pests for mutual protection are as closely packed on the shoot or leaf as they can stand, with their heads to those parts and their tails outwards, and being bright and smooth they throw off insecticides intended for their destruction. Hence careful and experienced gardeners brush over the infested parts with the insecticide first, or rub the attacked growths with the fingers dipped in the insecticide. This disturbance places the insects in a position to be effectively assailed by spraying or syringing with the insecticide. It is necessary to pay assiduous attention to the trees afterwards, for all the insects may not have been reached by the insecticide, and those that remain soon found new colonies or spread in the old with amazing rapidity. Keep a sharp look-out, and when an enemy is seen promptly "touch up" the attacked part with the insecticide. That is the only way to keep down insects, combined with thorough cleanliness and proper management.

Bordeaux Mixture v. Carbonate of Copper in Ammonia (*D. Watson*).—In answer to your inquiry we cite what Mr. T. Greiner, a well-known fruit grower, says in an American paper:—"The Bordeaux mixture, I believe, will soon be played out. It has various objections. First, it is expensive—much more so than simpler solutions. It is troublesome to prepare and to apply, as it has to be strained through a fine sieve, which is often quite a task, and even then it is apt to clog the spraying nozzle. Next, you get all soiled with the white, waxy stuff, and if it gets on fruit it sticks, and perhaps causes more trouble. Why should we apply it at all when we have in the solution of copper carbonate in ammonia a liquid that is almost as effective in the prevention of plant diseases, much cheaper, and much more readily prepared and applied? The concentrated solution can even be bought prepared, and with the required quantity of water added, is then ready for the spray. It goes under the name of "copperdine," costing only \$1 per gallon, which quantity is sufficient to make 100 gallons of spraying liquid. At this cost we can afford to make two sprayings instead of one with the Bordeaux mixture, and then we save money." Copperdine is not, so far as we know, sold in

this country, but the method of preparing carbonate of copper in ammonia has been described in these columns.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*A Constant Subscriber*).—1, *Malva moschata alba*; 2, *Limnanthes Douglasi*. (*F. J.*).—No, it is the Caper Spurge, *Euphorbia Lathyris*. (*T. E., Coventry*).—*Eucomis punctata*. (*Young Gardener*).—1, *Oenothera Lamarckiana*; 2, A florist's variety, not a species; see the above conditions; 3, *Linaria reticulata* varieties; 4, *Lychnis chalcedonica*; 5, *Lychnis coronaria*; 6, *Maurandya Barclayana alba*. (*A. H.*).—*Hyoscyamus niger*, the Henbane.

COVENT GARDEN MARKET.—JULY 13TH.

MARKET well supplied with outdoor fruit. Prices lower.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.		
Apples, Tasmanian, case	2	6	to	5	0	Oranges, per 100	..	4	0 to 9	0	
Cherries, per half sieve	..	2	6	7	0	Peaches, per dozen	..	2	0	8	0
Grapes, per lb.	..	1	0	2	6	St. Michael Pines, each	..	3	0	6	0
Lemons, case	..	10	0	15	0	Strawberries, per lb.	..	0	3	1	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.			
Beans, Kidney, per lb.	..	0	9	to	1	0	Mustard and Cress, punnet	0	2	to	0	0
Beet, Red, dozen	..	1	0	0	0	Onions, bunch	..	0	3	0	5	
Carrots, bunch	..	0	4	0	0	Parsley, dozen bunches	..	2	0	3	0	
Cauliflowers, dozen	..	2	0	3	0	Parsnips, dozen	..	1	0	0	0	
Celery, bundle	..	1	0	1	3	Potatoes, per cwt.	..	2	0	5	0	
Coleworts, dozen bunches	..	2	0	4	0	Salsify, bundle	..	1	0	1	6	
Cucumbers, dozen	..	2	6	4	6	Scorzonera, bundle	..	1	6	0	0	
Endive, dozen	..	1	3	1	6	Seakale, per basket	..	0	0	0	0	
Herbs, bunch	..	0	3	0	0	Shallots, per lb.	..	0	3	0	0	
Leeks, bunch	..	0	2	0	0	Spinach, bushel	..	3	0	3	6	
Lettuce, dozen	..	0	0	1	6	Tomatoes, per lb.	..	0	6	0	9	
Mushrooms, punnet	..	1	6	2	0	Turnips, bunch	..	0	6	0	8	

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.

Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	2	0	to	4	0	Maidenhair Fern, dozen			
Asters, French, bunch ..	1	0		2	0	bunches	4	0	to 6 0
Bouvardias, bunch ..	0	6		1	0	Myosotis or Forget-me-not,			
Carnations, 12 blooms ..	0	6		2	0	dozen bunches.. .. .	2	0	3 0
Carnations, Malmaison, 12						Mignonette, 12 bunches ..	2	0	4 0
blooms	2	0		4	0	Orchids, per dozen blooms	2	0	8 0
Carnations, dozen bunches	4	0		6	0	Pansies, dozen bunches ..	1	0	2 0
Cornflower, dozen bunches	2	0		4	0	Pelargoniums, 12 bunches	4	0	6 0
Eschscholtzia, doz. bunches	2	0		3	0	„ scarlet, 12 bunches	3	0	4 0
Eucharis, dozen	2	0		4	0	Pinks, dozen bunches ..	2	0	4 0
Fuchsias, per bunch	0	6		1	0	Poppies (var.), doz. bunch	1	6	4 0
Gardenias, per dozen ..	2	0		4	0	Primula (double) 12 sprays	0	6	0 9
Gypsophilas, French,						Roses (indoor), dozen ..	0	9	2 0
large bunch	1	0		2	0	„ (outdoor), doz. bunch.	2	0	6 0
Gypsophilas, English,						„ Red, per doz. blooms..	1	0	2 0
small bunch	0	4		6	0	„ Tea, white, dozen ..	1	0	3 0
Lilium candidum, bunch..	1	6		2	6	„ Yellow, dozen	2	0	4 0
Lilium longiflorum 12						Spiraea, dozen bunches ..	4	0	6 0
blooms	2	0		4	0	Sweet Sultau, doz. bunches	2	0	4 0
Lilium (var.) doz. blooms ..	0	6		2	0	Sweet Peas, dozen bunches	3	0	6 0
Marguerites, 12 bunches ..	2	0		4	0	Tuberose, 12 blooms.. ..	0	4	0 6

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.		
Arbor Vitæ (golden) dozen	6	0	to	12	0	Lycopodiums, per dozen	3	0	to	4	0
Begonia, per dozen	6	0	12	0	Marguerite Daisy, dozen	6	0	12	0		
Calceolarias, per dozen	3	0	6	0	Mignonette, per dozen	4	0	8	0		
Cupressus, large plants, each	2	0	5	0	Musk, per dozen	2	0	4	0		
Dracæna terminalis, dozen	18	0	42	0	Myrtles, dozen	6	0	9	0		
viridis, dozen	9	0	24	0	Palms, in var., each	1	0	15	0		
Euonymus, var., dozen	6	0	18	0	(specimens)	21	0	63	0		
Evergreens, in var., dozen	6	0	24	0	Pelargoniums, scarlet, doz.	2	6	4	0		
Ferns, in variety, dozen	4	0	18	0	" per dozen	6	0	12	0		
" (small) per hundred	8	0	12	0	Rhodanthes, per dozen	4	0	6	0		
Ficus elastica, each	1	6	5	0	Saxifraga pyramidalis	1	6	2	0		
Foliage plants, var., each	2	0	10	0	Spiræa, per dozen	8	0	12	0		
Fuchsia, per dozen	3	0	8	0	Trailing plants (various),						
Geraniums, Ivy	4	0	6	0	per dozen	3	0	9	0		
Hydrangea, per dozen	9	0	15	0	Tropæolum or Nasturtiums						
Lobelia, per dozen	3	0	6	0	per dozen	4	0	6	0		



WEAK POINTS IN AGRICULTURE.

If education expands the mind, strengthens the intellect, and enlarges individual capacity generally, why is it that we find learned professors, editors of agricultural papers, and other men of light

and leading so outspoken in their opposition to efforts for the enlightenment of farmers? It is simple nonsense to assert that farmers do not require such aid. If that were so, what need would there be for agricultural colleges such as Cirencester, Aspatria and Downton? It is certain that very few farmers of the present generation have had the benefit of such instruction as is given at these institutions, and that the knowledge they possess is precisely of the superficial character which follows mere routine, without inquiry into cause and effect.

In one point only is there unity of opinion—*i.e.*, of the gravity of the situation—for no one at all reasonable can deny that farming is now a struggle for bare subsistence, or that very much of the land has fallen in value by considerably more than one-half. The case is simply one of cause and effect. Rents for all corn farms have fallen so low that the purchase of land even at proportionately low prices is regarded as decidedly a speculative investment, so much so that not a week passes by without its record of abortive attempts to sell farms, or of sales effected at exceptionally low prices. Cheap corn, reduced rents, struggling tenants, landlords' difficulties, mortgages, sales, residences of county families closed, or let, is the lamentable sequence of an agricultural depression that is now in its second decade. Surely, then, it is reasonable to inquire if any improvement from within is possible, to gauge our practice, to seek for its weak points, and see if by improvement we cannot achieve better results rather than to cry for aid from without. It is alike vain to expect such assistance, or to ignore the fact of markets open to the world, of ever-growing facilities for ocean traffic, of imports of farm produce increasing in quantity and variety every year. Clearly, then, it should be our aim to strive for improvement both in the quality and quantity of home-grown produce, to accept the challenge of the foreign producer, and meet him at every possible point with samples so superior to his that a ready market and prompt sale at high rates become a certainty.

This implies, in live stock breeding by selection, as is so well done already among horses in our Norfolk hackneys, Suffolk shires, and Clydesdales; among cattle, in Red Polls, Galloways, Herefords, Shorthorns, Devons and other pure breeds; in such sheep as Shropshires, Suffolks and Hampshire Downs; in swine such as Large Whites and Middle Whites. But this is not the class of stock to be met with at the farm of an ordinary tenant farmer; with him mongrels are the rule, anything like pedigree stock the exception. So, too, with his crops both on arable and pasture land; they may be respectable, but seldom indeed is it that they approach a high standard of excellence. Much more stress is wont to be placed upon seasons and weather than upon high culture or possible improvement. There are striking exceptions in our best home-grown Barley and Oats, in the fruit of Apples and Pears from young trees under skilful cultivation, in the factory butter of both English and Irish dairies, in our poultry where special attention is given to it as in Sussex, where there is now an annual turn over of some hundred thousand pounds in this business. Energy and intelligence tell us much in farming, perhaps more strikingly now than in most other things. Proud indeed were we of the fruit farmer whom we heard last autumn telling a Manchester audience how his West of England Apples had in the market of that enterprising city sold for much higher prices than the best imported fruits.

We must foster a spirit of enterprise, must launch out and cater for the obvious growing requirements of our fast increasing population. What care consumers whether the article they require is foreign or English? Only an hour or two before writing this article we were enjoying the hospitality of a lady, who told us she had given preference to some excellent American cheese at a local grocer's simply because it was so superior in flavour to any home-made cheese she tasted. Is it not a disgrace that at the recent meeting of the "Royal" at Warwick there was no competition for

the prizes offered for home evaporated fruits? Much to its credit, the premier Society again offers similar prizes at its next meeting at Chester in 1893, together with prizes for whole-fruit jams, collections of bottled fruits, collections of preserved fruits for dessert purposes, collections of preserved Peas, French Beans, Tomatoes, and Mushrooms for cooking purposes, cider and perry made from fruit grown in 1892. All these things should come now under the comprehensive term of farm produce, and we may well remind those who sneer at fruit farming that in the United States of America within the last decade a large and flourishing business has been built up in evaporated fruits mainly for exportation to this and other European countries.

WORK ON THE HOME FARM.

Some heavy showers of rain have done much good to all growing crops, and no material harm to mature hay crops. There has been plenty of wind and sunshine to enable us to save much good hay, the prospect being now much brighter than it was last year, so far as regards an abundant supply of good fodder for winter. Early root crops have come on so fast that the leaves are already meeting between the rows, and no farther hoeing will be required. Later crops flourish in the warm moist rich soil, growing quickly out of harm's way, insect pests never doing much damage in warm showery weather.

Much of loss and disease among swine is caused by filthy stys and unwholesome food. Because pigs consume garbage so freely there is much reckless use of improper food for them. At dairy farms a considerable number of pigs are reared to consume the whey and buttermilk which runs through a pipe from the dairy into a cistern where meal is mixed with it for the pigs. With a close fitting lid to the cistern, gases generated by the fermentation which often sets in after meal is stirred in, cannot escape freely; the food becomes sour, unwholesome, and dangerous, especially for young pigs. The risk of harm in this way is easily avoided by fixing an air pipe to the cistern, and mixing the meal with the whey as it is used. It is a good plan to withdraw swine from yards and stys, giving them a run in the rick yard and home close now, and after harvest upon stubbles. As winter Beans become full podded they are used for the pigs, making a wholesome and cheap addition to their dietary. All walls and woodwork of pig-stys and hovels should now have a thorough dressing with limewash, yards cleaned out, floors and yards repaired, drains scoured, and the whole place made sound and clean for autumn and winter use.

Stubble pigs are likely to prove very profitable as prices are so high, and farmers who have kept up their stock of breeding sows will probably find a full herd of swine more profitable after harvest than an equal number of sheep. Prices fluctuate, low prices, especially for pigs, often leading to rash sales. It is better to keep a fair proportion of each sort of live stock, as something or other can then be had which goes well at market, and extremes are avoided. Careful management and judicious feeding generally enable one to tide over market fluctuations; the chief point is to always have something good for sale, something to bring in the nimble ninepence rather than the slow shilling.

METEOROLOGICAL OBSERVATIONS.

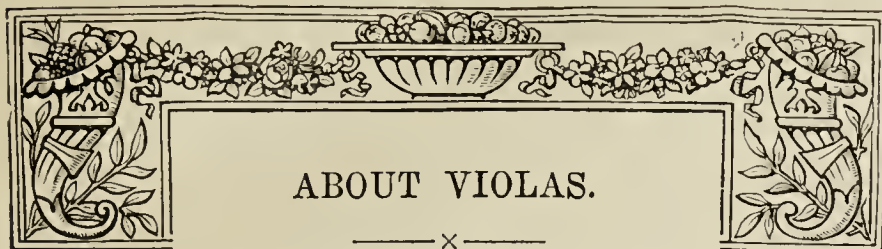
CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.	
		Hygrometer.		Direction of Wind.	Temp. of soil at 1 foot.	Shade Temperature.		Radiation Temperature			
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.		
1892. July		Barometer at 32° and Sea Level.									
Sunday ..	3	Inchs. 29.761	deg. 74.5	deg. 63.9	N.E.	deg. 61.0	deg. 81.7	deg. 55.8	deg. 124.2	deg. 51.4	—
Monday ..	4	29.913	72.3	59.4	S.W.	62.1	78.7	59.4	127.3	55.9	—
Tuesday ..	5	30.000	62.3	56.2	S.W.	62.9	70.5	52.9	113.3	48.4	0.372
Wednesday	6	29.958	62.9	54.9	W.	61.1	69.0	52.6	125.9	50.1	—
Thursday ..	7	29.657	65.9	59.2	W.	60.6	71.7	59.1	123.3	54.9	—
Friday ..	8	29.989	62.9	54.0	S.W.	60.4	71.6	50.7	123.9	45.6	—
Saturday ..	9	30.123	65.4	56.7	S.W.	60.5	72.8	50.9	122.9	45.6	0.010
		29.915	66.6	57.8		61.2	73.7	54.5	123.0	50.3	0.382

REMARKS.

- 3rd.—Unbroken sunshine.
 4th.—Breezy, and cloudy at times.
 5th.—Windy and generally bright in morning; continuous rain from 3 P.M. to midnight.
 6th.—Brilliant early; alternate sunshine and cloud during the day; spots of rain at night.
 7th.—Generally overcast in morning, with a slight shower about eleven; sunny afternoon. S.W. gale all day.
 8th.—Fresh, breezy, and sunny.
 9th.—Sunny and warm in morning; cloudy, with one or two slight showers in afternoon.
 A windy and rather cloudy week. Temperature slightly above the average.—G. J. SYMONS.



WHEN Mr. John Wills, now of Onslow Crescent, London, but in 1863 head gardener to Sir Philip de Grey Egerton, Bart., at Oulton Park, Cheshire, created a sensation by his wonderful display of *Viola cornuta*, a plant then comparatively unknown excepting in botanical gardens, he little dreamt of the wide-spread popularity of the grand race of *Violas* we now have, and their great beauty and very extensive use for early spring and summer bedding. Not being quite certain as to the date of Mr. Wills' introduction of *V. cornuta*, I wrote to him on the subject, and in a long letter now before me he writes:—

"I saw at the Wellington Road Nursery in 1862 six plants of this pretty, and as I saw, most useful plant in flower, amongst their collection of hardy herbaceous plants, and I was so much struck with it that I wanted to buy the six plants, but Mr. Andrew Henderson declined my offer. After a good deal of pressing he let me have three plants, which I gladly took with me to Oulton Park and set to work to propagate. It was at the end of the summer, and I kept on driving away at their propagation through the following autumn and winter, and by May in the following year I was able to plant several large beds in the flower garden with them, besides in two long ribbon borders each 1500 feet long. They were a lovely sight, and when the shades of evening were closing around I looked on with intense pleasure, and my noble employer and all his friends were profuse in their expressions of delight at the arrangement, and my dear old friend, the late Robert Fish, when he saw it was transfixed to the spot with surprise and delight. I obtained *Viola lutea* in 1864 from Mr. Tyerman, then curator of the Liverpool Botanic Gardens, and I grew this largely at Huntroyde Park, Burnley, Lancashire, as well as *V. cornuta*, of which I had then fully a mile as edgings to the flower borders, in the kitchen garden, and elsewhere."

Mr. Wills' letter is full of pleasing reminiscences of days long past, and to which I may refer on another occasion. It is, therefore, nearly thirty years since Mr. Wills brought under notice the beauty and adaptability of *Violas cornuta* and *lutea* as bedding-out varieties. Previous to this date the late Mr. Fleming had been using bedding Pansies extensively at Cliveden, and for a long time the Cliveden forms of yellow, white, blue, and purple were used there and elsewhere; and although the yellow, white, and blue kinds have been superseded, and are now out of date, the old Cliveden Purple under this and other names is still extensively grown, and nothing has beaten it for large masses. I saw some splendid beds of it in May at Stoneleigh Abbey, near Kenilworth and Warwick, where my good friend, Mr. Beddard, gardens so wisely and well.

It may be of interest to some of our younger gardeners and amateurs to get a glimpse of the early history of the *Viola*. In Don's "General System of Gardening and Botany," published in 1831, 170 species, besides varieties, are enumerated and described. *Viola cornuta* (to which I have already alluded) is a native of Switzerland and the Pyrenees, and on Mount Atlas, and is further described as "The Horned Violet or Pansy." *Viola lutea* is also described by Don as a native of moist mountainous districts and pastures in Wales, the north of England, and in Scotland, and in this species all the petals are bearded at the base. *Violas lutea* and *lutea grandiflora* are still cultivated in many gardens for their very

early floriferous habit of blooming; and in the Botanical Gardens at Edgbaston, Birmingham, two large beds of the latter variety are now in full bloom, but *V. Bullion* and others are now superior, and of the same colour.

Viola calcarata is a distinct species, with better formed flowers than most of the species, and from this species I think we may trace some of the parentage of our modern *Violas*. Mr. Latham, of the Edgbaston Botanical Gardens, drew my attention to a charming coloured illustration of it in a German botanical work, "Alpenpflanzen," edited by Joseph Sebroth and Frederick Graz, published at Prague in 1881, a work very little known, but of great interest to the student interested in hardy plants, as it is rich in a number of admirably coloured illustrations. The flower is of a brownish lilac colour, with the broader petals of the modern *Viola*, but with the horn very distinctly developed. It is described by Don as a native of the higher mountains from Austria to Provence.

Viola tricolor, the old form of Pansy, a native of cultivated fields and gardens throughout Europe, Siberia, and North America, is also plentiful in Britain. In this species we have the parent of the grand exhibition Pansies of the present day, and our old writers record many pleasantries in connection with this flower. Don says, "The Heartsease has ever been a favourite flower with the people, and has many provincial names, all bearing some allusion to love. In the days of superstition it was called Herb Trinity, probably from the three coloured flowers. Heartsease is the general name by which it is now known, its most elegant name being Pansie, from the French *pensée*, and the meaning is to be found in Shakespeare's tragedy of "Hamlet," where Ophelia says, "There's Pansies, that's for thoughts." Heartsease was also reputed by our old writers on the "Materia Medica" as a powerful medicine in epilepsy, ulcers, and cutaneous complaints; and Haase, who administered it in various and large doses, extended its uses to many chronic disorders.

But to return to our *Violas*. I think *V. cornuta* Perfection was sent out somewhere about 1870 by Mr. B. S. Williams, and Enchantress and Magnificent were sent out a year or so after, I believe; but I fail to remember the exact date, and if one or more did not emanate from the Wellington Road Nurseries. In 1873 Mr. Richard Dean introduced Blue Bell, a variety which retained much of the *V. cornuta* character, and it rapidly became most popular. It was a chance seedling in his garden at Ealing, its origin being singular, as he had not previously had any *Violas* there. This variety is still cultivated extensively, and in masses is very effective. Messrs. Dickson & Co. of Edinburgh also took the *Viola* in hand, and raised a great many varieties, and I regret that I am unable to say here which of the leading varieties of the present time were raised by this firm.

Some nine or ten years since I introduced True Blue, a seedling of my raising, still the best blue we have, of close compact habit, very early and continuous in blooming, and of good constitution, and really with a strong blue shade of colour in it. Then, just after, Mr. B. S. Williams introduced Mrs. Gray, a seedling raised at Eglington Castle, Scotland, a free growing free flowering white; Then came many new varieties from various sources, and a great impetus was given to the *Viola* in the splendid batch of new varieties raised by Mr. Baxter of Daldowie, and sent out about four years since. This batch included Spotted Gem, Ethel Baxter, and York and Lancaster, still popular varieties. Their name is legion now. Raisers are at work throughout the kingdom, and I may, I think, lay some little claim to having raised some very fine sorts, such as Queen of Lilacs, Bridesmaid, Golden Queen of Spring, Golden Gem, Golden Circle, Master of Arts, Sir Joseph Terry, and others. What I now dread is the influx of many varieties which are really bastard Pansies and do not hold the *Viola* type of character; also bad washed-out colours and varieties of *Violas*. A large number of flowers of seedlings are sent to me during the

year for my opinion, and although it may not to some be worth much I claim to know as much about Violas as anyone, for I have for years consistently written and advocated the cause of the Viola. But I give out a strong word of warning that the time has come when we can no longer tolerate such rubbish as Moonlight and some other new varieties recently introduced, and that I, for one, so long as life is spared me, will enter my protest against their introduction.—W. DEAN.

(To be continued.)

NOTES ON SALVIAS.

As greenhouse plants for autumn and winter flowering there is nothing, I think, more useful and worthy of extensive cultivation than the Salvias, for probably at no season of the year is it more difficult to keep up a display of flowers than at the commencement of October, before the main bulk of Chrysanthemums are in bloom. Salvias may be grown out of doors during the summer months, but they must be housed before frost appears, as they cannot withstand severe weather. The plants should be propagated for all purposes in spring and early summer, the cuttings being placed in a gentle bottom heat, when they will root readily, and providing due attention is paid to the potting plants may be had that will bloom in the greenhouse throughout the autumn and winter.

Salvias delight in a rich open soil, particularly when grown in pots. Fibry loam and well-decayed manure in about equal parts, one-fourth leaf soil, and a sprinkling of silver sand will form a very suitable mixture for them; 8-inch pots are, I think, quite large enough to grow plants for general purposes, but if extra large specimens are required 10 or 11-inch will not be too large.

The following are some of the most useful kinds, and they should be grown in all gardens where a supply of flowers is required throughout the winter. *Salvia patens* is one of the most distinct and beautiful deep blue flowering plants in cultivation. Seeds sown in March will form capital plants that will commence flowering in June, and continue till the end of the summer. The flowers, which are produced in considerable quantities, are large and of a lovely bright gentian blue colour, making charming plants for greenhouse decoration. For summer bedding or the open border it is invaluable, growing to a height of about 2 feet, and flowering more or less all the summer.

Salvia Pitcheri is also a very useful and most desirable plant. Its flowers, which are freely produced on branching stems 2 to 3 feet in height, are of a beautiful azure blue, and the plants continue in bloom all through the autumn. *Salvia splendens* is a very beautiful and useful variety, producing its bright scarlet flowers with the utmost freedom. This variety is well adapted either for mixed borders or summer bedding, but is seen to the best advantage when grown in pots for greenhouse decoration, being one of the best for winter flowering.

Salvia rutilans is, without doubt, one of the most valuable and generally grown of all the Salvias, being invaluable for general purposes. It is an exceedingly free bloomer, producing quantities of small yet very pretty spikes of flowers of a lovely magenta colour. The foliage is delightfully fragrant, hence it has derived the name of Pine Apple-scented Sage.

Salvia gesneriflora is a magnificent species, deserving a place in all collections of Salvias; indeed, none would be quite complete without it, as it is one of the last to flower, which is a great consideration where a succession of bloom has to be maintained. Its flowers, which are produced in abundance, are very conspicuous, being of a bright scarlet colour. Care should be taken not to pinch the growths after July, the secret of growing this variety being to produce good stout growths, failing which it is useless to expect satisfactory results. Liquid manure applied twice a week will prove very beneficial at the flowering period. Salvias *leucantha*, *Betheli*, *Grahami*, and *fulgens* might also be included with great advantage where a greater variety of colours are desired.—GEORGE PARRANT, *Ashby St. Ledgers Lodge, Rugby*.

PEACHES AND NECTARINES.

VARIETIES FOR EARLY FORCING.

THE very early Peaches Alexander, Waterloo, Early Beatrice, Early Louise, Early Rivers, and Early Leopold, with the very early Nectarines Advance and a little later Lord Napier, have a great advantage over the older varieties in that they need not be started before the new year to ripen the fruit in May and early June without recourse to hard forcing. The fruit may be had a month

or six weeks earlier, but it is at a sacrifice of quantity, size, and quality, greater outlay in fuel, and more waste of the energies of the trees. To have such varieties as Grosse Mignonne Peach and Elruge Nectarine ripe in May or early June the trees must be started early in December, and they have to flower and make their foliage at an unfavourable season, so that the buds do not form well, and are frequently cast in quantity from no other cause than the imperfect formation of the buds. The large-flowered varieties are very prone to throw off the buds, and do not set nearly so freely nor perfectly as the small-flowered varieties. All the Early York race are liable to imperfect bud formation and to cast them in "showers" when they are expected to swell. If opened they will be found to have effete ovaries and defective stamens. The Early York race of Peaches are also prone to over-maturity of the buds when early forced in consecutive years, and sometimes expand and even set the fruit in late August or early in September.

Grosse Mignonne and all its race are not good for early forcing, often forming triple blossom buds at a joint, and cast all those and many other large promising buds. Noblesse and all its tribe form plenty of prominent buds and if early-forced two or three years sheds a majority of them. Those remaining have, as seen when the flowers are fully expanded, twin, sometimes triple, and occasionally quadruple ovaries, long thin antherless stamens, whilst many flowers have poor ovaries, short styles, and the stamens are short, curved inwards in a heap over the pistil, and pollenless. All of the Early York (except Hale's Early), Grosse Mignonne, and Noblesse races of Peaches are not suitable for early forcing to ripen the fruit in May or early June where it is expected to be remunerative, for they are nowhere as compared with the Royal George and Early Albert (Grosse Montagne) races, either as regards quantity or value of crop. The size, appearance, and quality of the Early York, Grosse Mignonne, and Noblesse races is not disputed to be of the best, but it is the eligibility of these and their varieties for forcing before or even with the new year that is questioned. Started in January or February and brought on slowly they are seen to advantage in the fruit at midsummer and later. The varieties with large flowers are not as a rule such good early forcers as the varieties with small flowers. But some may take exception to this dictum, and insist on some that have large flowers, as Alexander, Waterloo, and Early Beatrice being good setters. Now Alexander and Waterloo have flowers about half the size of those of Early York, and Early Beatrice has very much narrower petals like its parent, the White (Rivers) Nectarine, than Hale's Early, and this variety has narrower petals than its type (Early York). What a variety has gained in petals it seems to have lost in vigour of pistillate and staminate organs.

Early Rivers (a grandchild of the White Nectarine) has gained nothing by making a departure from the characteristics which stand Early Beatrice in such good stead or to insure a good set, but has lost so much that it (Early Rivers) either sets about half as many fruits as Early Louise, or the set is so imperfect that the fruits "crack at the stone" and are useless. This defect can be overcome by fertilising the flowers of Early Rivers, and all the large flowered varieties with perfect ovaries, with the pollen of other flowers, to wit the small flowered varieties. None, perhaps, sets better than Early Louise, a seedling from Early Albert, which sets when others do not, and is well worth growing for its pollen to fertilise other varieties where a difficulty arises with them in setting; but it is not in any nurseryman's list, not even Mr. Rivers', and may not be procurable. Early Louise will, however, answer quite as well, and it ripens plenty of fruit in May when started at the New Year, and the quality is excellent for an early Peach.

Early Leopold has small flowers, bears well, and succeeds Early Louise. Dagmar has plenty of colour both in the flower and in the fruit, the former small and the latter large, and is of the free-setting Early Albert race, ripening its downy, deep crimson, handsome, melting and rich fruit soon after Early Leopold. The difficulty, if any, with these small-flowered varieties is in the abundance of their flowers, which are often weak in consequence, and should be freely thinned before the flower buds are fully open. This will cause the flowers left to be bolder, and they will afford pollen freely for fertilising other varieties, whether Peaches or Nectarines.

Of these early Peaches we should select Alexander and Early Louise, and grow them in a house by themselves for a first early supply of fruit, say in April and May, and the house being closed by the middle of December, and forcing commenced at the new year, the fruit would ripen at the time named without pressing the trees so hard as to prejudice their future bearing. If a Nectarine was desired Advance is the most likely variety in commerce to afford fruit about the same time as the Peaches. The trees could be forced to produce fruit in less time, but it is better to have trees in pots for such "express" work as placing ripe fruit on the table in three months from starting. This is a very

desirable method of growing very early Peaches and Nectarines, and a greater variety and longer succession of fruit can be had from a house of a size needed to grow a few planted out trees.

The best of all Peaches, however, for forcing are the small-flowered varieties, and it is the same with Nectarines. Royal George and Stirling Castle Peaches are unique for early forcing, and there is less failures with them than any other. The trees recuperate better than other varieties after forcing and carrying a heavy crop, and are not liable to over-development of the buds, and do not cast them during the rest season. In fact, they are "sensible" trees, concentrating all their forces on ample growth to assimilate and nourish the current crop; and when that is perfected they set to work and form buds on wood then apparently having nothing but wood buds, and plump them up, not too large, so as to leave no doubt of their giving a full crop of fruit the following season. These are my favourites. Crimson Galande is another first-rate forcing or any-purpose Peach. It is prolific and vigorous; the fruit is brilliant and the flowers are small.

In Nectarines we have Lord Napier. Large flowers! That may be, all the same it is of the Early Albert Peach—the free-setting race, and heredity tells; besides, the petals are narrow, and it is not all show, but with plenty of substance in the ovary, boldness of style, and prominent pistil, with stout stamens, and noble pollen-laden anthers. Its flowers and fruit cling to the branches with remarkable persistency. Then there is Stanwick Elruge, with small flowers, that would if allowed bear itself to death, and the much finer Dryden, best of all, bar one, for cropping, size, colour, and quality, and it has small flowers. Finally, there is Victoria, the finest of all, and it has small flowers. All these force well, and if there is fruit on any it is on those varieties that have, as a rule, the best ovaries and the most perfect stamens, and they are the best varieties for forcing.—G. ABBEY.

DINNER TABLE DECORATIONS.

THERE seems to be a wide difference between dinner table decorations as they really are and as they are presented at exhibitions. What is usually seen at real dinner parties very naturally depends upon the taste of the hostess, or lack of taste; but those who have to provide real dinner table decorations declare that three-fourths of the arrangements seen at exhibitions would be absurd or impossible in the bulk of ordinary dining rooms. Now, at exhibitions the surroundings have no connection with the colours employed in the table dressings. They are out of the question, and are absolutely ignored. But real dinners take place in rooms, though sometimes large ones. Large or small, these must be of a certain style of decoration, and have in the walls, doors, and hangings, certain predominating colours, which to suit the usually dark hue of the furniture are dark also. Anyone familiar, therefore, with the glaring or gaudy tints seen in the flowers of the modern dinner table dressings at shows will have no difficulty in realising the utter want of judgment shown in connection with many; indeed, the show table decorator seems to cater for what may catch the public taste, which is in this case not at all a cultivated taste, rather than to create combinations which would harmonise with ordinary dinner table surroundings.

It would be very difficult to find anything more incongruous for instance than was seen at Croydon the other day, where a number, certainly not less than five, metal arches ranging from 4 feet to 4½ feet in height in the centre and from 3 feet to 4 feet wide at the base, were dressed almost entirely with gaudy Shirley Poppies, Grasses, and Gypsophila flowers. It is very easy to understand how ridiculous these things looked, and what a consternation they would create were they stood upon any ordinary dinner table in a quiet toned room. A very considerable modification of these arches was seen at Earl's Court the day previous in the smaller wire constructions used by Mr. Chard. These are about 6 inches broad, and range from 18 to 20 inches across and high. The bases stand in zinc trays, and the flowers dressing the arches are in small glasses hung at intervals on the wirework, so that both the general grouping of the flowers and the diverse effects in colour can be produced at will. These arches, whilst lightly dressed, are as objects of decorative art pretty enough, yet have the demerit of seriously obstructing the intercourse which should always exist between guests at a dinner table. It is indeed to be feared that nearly all dinner-table floral decorations more or less do the same thing, and wherever such is the case, let their beauty be what it may, they seriously mar what should always be the best feature of a dinner party—pleasant conversation and intercourse. As in connection with show table decorations no test as to this important matter is ever applied, things pass muster which would not be tolerated in private life.

It might be expected that ladies presumably educated as regards taste would make in these matters the best judges, but it very often happens that they make a veritable hash of their awards; and rarely would male judges approve of their decisions. Some table decorators make their arrangements so light that they give no tangible effect, others make theirs so heavy that the tables almost groan under the weight of flowers; some are horribly incongruous in coloration; but very few indeed seem to succeed in producing what affords absolute satisfaction.—A. D.



A NEW STRAIN OF ROSES.

It now appears that the Rose may be added to the list of plants which may be treated as annuals. Seeds of a variety, under the name *Rosa polyantha remontant*, received from a French seedsman early in the year, were sown on January 10th. They germinated rapidly in greenhouse warmth, and, after being pricked out, have been grown in a pan on a shelf in the cool house. They are now small plants, 2 to 3 inches high, and every shoot apparently is carrying a bud. The first flowers opened on April 9th, just three months from sowing. The flowers are coming in considerable variety, white and pink mostly, single and semi-double, an inch or more in diameter. At present they are charming little plants, with small stems and light green foliage. With their prolific flowering habit and rapid growth they can scarcely fail to prove useful and attractive garden plants.

Their precocity is certainly novel and interesting. Some few years since Carnation growers were much surprised by the introduction of a strain of these flowers which could be had in flower in four or five months from seed, surprise which has given way to satisfaction with the desirable *Marguerites*.

Perhaps, the Rose having developed a precocious habit, we may be favoured with even finer forms than *R. polyantha remontant*. It would seem that flowers are being inoculated with some of the rapidity of the age.—J. N. GERARD (in *Garden and Forest*).

TEA ROSES IN POTS.

LARGE established plants that are in pots as large as it is necessary to have them in may be repotted and stood or plunged in a sunny position outside. In repotting carefully work from the old soil amongst the roots until the balls are reduced by one-half. When this is done the latter should be in an intermediate state for moisture. The pots should be well and carefully drained, a little moss or the roughest of the compost being placed over the drainage. The soil comprising the compost should also be in an intermediate state for moisture, and should be pressed moderately firm into the pots. The plants should be staked or tied according to requirements, and plunged before they become dry.

If the pots are plunged at once, the plants syringed twice daily, and the surface of the material kept moist, a thorough watering will not be necessary for some days. The longer the plants can be kept after potting without a thorough watering the better, but the soil must not be allowed to become overdry before water is given, or more harm than good will result. Roses are not long before they commence fresh root action in soil that can be kept for some days or a week in an intermediate state for moisture. The plants also root much more freely when the pots are plunged than when they are stood on walks subjected to the drying influences of the atmosphere.

All flowers should be kept from these plants, and the foliage must be kept clean. They will ripen their wood thoroughly, and be in excellent condition for forcing early next season. Such kinds as *Safrano* and *Isabella Sprunt* are excellent for autumn blooming. These if given the same treatment and taken under glass during September, according to the weather, will break freely into growth, and by the aid of gentle warmth will soon yield a quantity of their small but delicate and useful buds. Plants that need repotting may be so treated without disturbing the balls, provided the soil in which they are growing is perfectly sweet. Young plants worked this season, or any that it may be necessary to develop as much as possible, should be kept under glass, where they will make luxuriant growth if well attended to. Well rooted plants in 7-inch pots may be placed into 10-inch, and those in 5-inch into others 2 inches larger. It is surprising how quickly large bushes can be produced from healthy young plants in 5-inch pots to commence with.

22 The compost for these should consist of fibry loam of a moderately light texture, or it should be rendered so by the addition of sand. The loam should form two-thirds of the bulk, and the other third of leaf mould; to this should be added sand and one-seventh of decayed manure. For plants in active growth under glass a 5-inch potful of some quick acting artificial manure may be added to each barrowful of loam used.—WM. BARDNEY.

STRIKING ROSE CUTTINGS.

RAISING plants by means of cuttings is often delayed until too late in the season. If cuttings of half-ripened wood are taken off with the foliage attached, cut into lengths of two or three joints, and inserted in sandy soil before they flag, nearly every one of some kinds will root. The cuttings should be inserted in hand-lights placed in a shady position, and the top eye only left above the soil. After insertion a good watering should be given, and the handlights kept as airtight as possible. In about a month they will be well rooted, and may be carefully lifted and placed singly into 4-inch pots. If encouraged to grow under glass afterwards they will become well established before winter, and will make capital plants the following season, whether they are planted out or kept in pots. Such kinds as Gloire de Dijon, William Allan Richardson, and others of similar growth will, if well grown under glass the following season and potted as they need it into 8 and 10-inch pots, make good plants for forcing the following spring. Nearly all Tea kinds do well grown in pots, which is advisable if required for flowering under glass. Hybrid Perpetuals do better, and make greater progress if planted out in spring in deeply dug and liberally manured ground. Many Teas and Hybrid Teas grown under glass the whole of the first season will give a bountiful supply of blooms in autumn, when they are scarce outside, and often prove as valuable as if produced during the spring months.—O. M. A.

FAMOUS PRIZE BOXES.

I OBSERVE that in his report of Hitchin Show your veteran correspondent, "D., Deal," refers to Mr. Lindsell's stand of forty-eight at Earl's Court on July 5th as the very best box of Roses he ever remembers to have seen. The Journal reporter, too, considered it "a superb stand, perhaps one of the best he (Mr. Lindsell) had ever arranged" (see page 14). While fully admitting the great beauty and quality of the stand, I am tempted to ask if "D., Deal," has taken into account the marvellous stand exhibited by Mr. W. J. Grant three years ago? I refer to the forty-eight with which he won the amateurs' challenge trophy at the Crystal Palace in 1889. Of the hundreds of fine stands which I have seen during the past few years that recurs to my recollection vividly as the queen of them all. Though the flowers have long since "faded and gone," I seem to see them before me in living beauty. Immense blooms they were, massive but shapely, and of wonderful substance. In colour, in freshness, and in finish they were perfection. The production of such a stand was a great achievement that I do not think has since been excelled. Would that Mr. Grant were showing this season in the same style as then. His meeting with Mr. Lindsell would have been a battle of giants; but we must be thankful to have the grower with us, and the rest, I hope, we may leave to time. I should be very much interested to hear remarks from others about famous stands of the present and the past.—ROSA.

SIR CHARLES E. ISHAM'S ROCK GARDEN.

REFERRING to an illustrated account of the Lamport Rock Garden in a June number of the *Journal of Horticulture* in 1872, I find it is twenty years since Dr. Hogg, with the Rev. M. J. Berkeley of botanical eminence, honoured the same by a visit, it having been commenced twenty-five years previously. The position which the rockery occupies prevents its enlargement; it is therefore much the same now as then, except that the improvements imparted by age and unremitting attention have been the means of its development into an object of contemplation far beyond the dream of its originator, and it probably possesses characteristics differing from all other similar structures. Consequently, should a visit from lovers of that style of gardening be inconvenient, another short notice might not be considered out of place, especially as it is probable that it may not continue many more years in its integrity.

The Lamport Rockery being located in no remote corner nor being in the proximity of trees has enabled it to become what it is. The narrow entrance abuts on the mansion, and consequently is in momentary access to one who arranged every stone and planted every plant. Nevertheless strangers are unaware of its existence until they find themselves in the midst of it.

Although of comparatively small dimensions one of the crags is 20 feet elevation. There have been added since Dr. Hogg's visit

ruggedly constructed excavations in the ground, a feature as effective as it is unusual. The structure being of red sandstone is amenable to the hammer and chisel for the perforation of stones through which the roots of alpine may penetrate into the gritty soil beneath, giving an appearance of incrustations on the solid rock, an effect only to be found in Nature where she displays her rarest charms.

The plants are selected on their merits rather than with regard to variety. The stones being arranged with the utmost care and irregularity present effects of light and shade in the crevices and recesses to an extent which would impart beautiful effects even were all vegetation to disappear. This feature would be absent under the stratified system, which is usually recommended as most correct in the formation of rock gardens.

The crevices are, by unremitting attention, kept properly open, not a leaf being permitted to remain which does not add to the desired effect. Were this to be neglected for a season it would be difficult to rediscover many crevices, and this beautiful if not unique feature would in a measure cease to exist.

The elaborate finishing touches which the rockery daily receives might to some suggest puerility, but it would be difficult to explain why they should be more so in the real thing than in a representation on canvas. Since we are all differently constituted, and as it is not everyone who can appreciate details which require an eye educated for that object, it might be desirable to refrain from writing more than might be received by the general observer.—C. E. ISHAM.

LAYERING CARNATIONS.

PROPAGATION by layering is in general a more convenient method of increase than by cuttings. It is the method most commonly employed for increasing or supplying a young stock of Malmaisons, for the florist section of Carnations and Picotees, and for self and border sorts. By means of layers Malmaisons can be successfully propagated at any season. Most of our Malmaisons are layered in light soil laid on borders, but as a rule it is a better plan to use for each shoot to be layered a small flower pot. The plant becomes well rooted when so treated, and can be repotted at once without any check such as in many cases would occur on lifting from a bed of soil.

Ordinary named sorts flowered during summer in pots are very readily manipulated if the plants are planted out thickly and put into the soil at such an angle as to bring the shoots to be layered close to the ground. These may be rooted out of doors, but I much prefer giving them the protection of a frame, in which they root more quickly. I have occasionally rooted this section in pots, but more often on beds of soil.

Border Carnations are sometimes left year after year in the same place without fresh plants being set out. It is only on some soils that this can be done. At the best it is not a method of culture that can be recommended, for fewer flowers are produced, and those that are are of inferior quality. The layers ought to be taken in July. Early-rooted plants are superior in every respect to those which are not rooted until late in the season, and sometimes so late that no roots whatever are produced. The operation of layering is quite simple. As I was taught, it was more complex than I have found either profitable or necessary. All that is needful is to make a slit down the shoot chosen, turning the penknife outwards when the slit is an inch in length. The tongue thus made is then pressed into the soil and secured with a peg if it springs upwards; if not, nothing further is required beyond firming it into the soil.—B.



CŒLOGYNE SANDERIANA.

THIS rare and beautiful Cœlogyne was introduced by Messrs. Sander & Co. in 1887, through their collector Förstermann. A very fine plant was exhibited at the meeting of the Royal Horticultural Society, in the Drill Hall, Westminster, on July 12th. It had three good spikes, each carrying ten flowers, and was shown by Mr. W. Robins, gardener to J. Vanner, Esq., Camden Wood, Chislehurst, Kent. The pseudo-bulbs are roundish and wrinkled; the leaves are 12 to 15 inches long, and about 3 inches broad, erect, light green. The racemes droop somewhat, are about 16 inches

long, and carry from five to ten flowers. These are 3 to 4 inches across; sepals white, petals white but narrower than the sepals; lip three lobed, side lobes crisped at the margin, striped with chocolate-red and blotched with yellow, centre lobe slightly reflexed, with large lemon-yellow blotch and several raised fringes. The home of *Cœlogyne Sanderiana* is not generally known, but the plants should be grown in an East Indian house. Fig. 9 (see page 59) represents it.—C. K.

ODONTOGLOSSUM GUTTATUM.

Odontoglossum guttatum is fully described in the "Kew Bulletin" for May and June. We gather that the species was sent to Kew for determination by G. R. le Doux, Esq., of Langton House, East Molesey, in March of the present year, with the information that it is a native of Ocaña, whence it was imported as *O. blandum*, *Rehb. f.*, in 1886. It is allied to *O. odoratum*, *Lindl.*, but differs in the shape of the column wings and crests, also in colour. In its fimbriate column wings it recalls somewhat *O. præstans*, *Rehb. f.* and *Warscew.* and *O. crocidipterum*, *Rehb. f.*, which, however, differ greatly in other characters. The flowers are light yellow in colour, irregularly blotched with chocolate, the spots being almost suffused on the upper halves of the sepals, and elongated into three narrow lines at the base of the petals. The lip is bright yellow on the reflexed side lobes, with a few small reddish-brown spots, the calli and disc nearly white, the front part of the lip chocolate and a few paler spots and lines on the erect sides of the unguis. The column is whitish yellow, with a few reddish-brown spots on the sides, face, and wings. The plant has since been presented to Kew.

CYPRIPEDIUM CURTISI.

It is now ten years ago since Messrs. Veitch & Sons introduced this fine *Cypripedium* from Sumatra through their collector whose name it bears. It has become a very popular plant with Orchid growers, and there are few collections which do not contain specimens of it. The plants may be grown readily in the East Indian house, very small pieces producing flowers. The leaves are about 6 inches long, mottled with dark and light green. The flowers are borne singly on scapes 6 to 9 inches high; the upper sepal is broad and acuminate, dark green with a whitish margin tinged with purple, the veins are darker purple; the lower sepal is very small. The petals are green and purplish white, thickly spotted with several shades of purple; the margins are fringed with short dark hairs, and the ends of the petals are recurved. The lip is large, dull purple, spotted and veined with deep purple. Being easily grown under ordinary care and treatment, this *Cypripedium* is often seen in exhibits of Orchids. Several good plants were shown by Messrs. Sander & Co. of St. Albans at the meeting of the Royal Horticultural Society on July 12th, and plants are flowering in the warm Orchid house at Kew.—C. K.

ANGULOAS.

The genus *Anguloa* was brought before the scientific and horticultural world about 1840-1844, chiefly through the enterprise of several gentlemen who had at that date become famous for their Orchid collections. These gentlemen defrayed the expense of a collector, M. Linden, who brought home several fine Orchids from South America, among them being *Anguloa Clowesi* and *A. Ruckeri*.

As a rule the *Anguloas* are robust growing plants, and will succeed in a cool house during the greater part of the year. During the winter when at rest they should be kept dry at the coolest end of the intermediate house, being moved to the coolest house about May or June, when they come into flower. The plants should be potted if necessary as soon as growth commences. They require plenty of moisture when growing, and a mixture of very fibrous peat and loam suits them provided the pots are well drained.

A. Clowesi is a very strong grower. It was collected by Linden in Colombia in 1842, and flowered in 1844 for the first time in Europe, in the collection of the Rev. J. Clowes, Broughton Hall, Manchester. The sepals and petals are bright yellow; the lip is whitish and tinged with orange, and so balanced that it swings backward and forward with every movement of the flower.

A. eburnea is a splendid addition to the genus; it has large white waxy flowers, and the lip is spotted with pink; it is very rarely seen.

A. Ruckeri was introduced from Colombia by M. Linden in 1845; the flowers are tawny yellow, thickly spotted with crimson; the lip wholly crimson.

A. uniflora has flowers that are almost pure white, in some varieties shaded and spotted more or less with pink. It is readily obtained, and easily grown.

There are several other species and varieties of *Angulcas*, but

those mentioned are the best of the genus. The deep blood coloured variety of *Ruckeri* (*A. Ruckeri sanguinea*), which is still very rare, might, however, be included. *Anguloas* should flower in June or July. Examples of *A. Ruckeri* and *A. uniflora* are now blooming well in the cool Orchid house at Kew.—C. K.

CALOPOGON PULCHELLUS.

Greenhouse and hardy Orchids are not so abundant that we can look on the scarcity of so old a plant as *Calopogon pulchellus* without surprise. It might have been expected that it would long since have received wide attention, but it is little known, and until Mr. Ware exhibited it at the Drill Hall on July 12th no one appears to have made an attempt to bring it into prominence. Its



FIG. 7.—CALOPOGON PULCHELLUS.

attractiveness is unquestioned. When well grown it is about 1½ foot high, bearing three, four, and five flowers on a stem. They are about an inch across, and though not large they are eminently pleasing in appearance and bright in colour. Paxton describes them as purple, but this is inaccurate; they are rather of a bright rosy mauve hue, and are borne on slender stems. Though usually grown (where cultivated at all) in a greenhouse, Mr. Ware says that the plant is perfectly hardy. He finds that it is very easily grown, requiring a cool shady spot in moist soil. The engraving (fig. 7) represents it.

ODONTOGLOSSUM AURICULATUM.

A pretty little species closely allied to *O. Lindleyanum*, *Rehb. f.*, but differing in having a hastately trilobed lip, the disc of which is light purple instead of brown. In other respects it is much like the species just named. The sepals and petals are

light yellow with a large light brown blotch near the apex, and a few much smaller ones below. The long claw of the lip, the side lobes and crests are white, the disc light purple, passing into light brown towards the apex of the front lobe. It was imported by Messrs. F. Sander & Co., with *O. nævium*, *Rehb. f.*, and has been sent to Kew for determination on two or three occasions; a living plant has also been presented to the collection, and it has recently flowered. It seems quite constant in character, and different from anything which has before appeared, though at first I thought it must be an anomalous variety of *O. Lindleyanum*. The name is given in allusion to the ear-like side lobes of the lip.—("Kew Bulletin.")

NOTES ON GRAPES.

THE present is a good time to give copious supplies of liquid manure alternately with surface-dressings of Thomson's Vine and plant manure immediately before giving clear water at the roots to Vines swelling their bunches. Providing the drainage is good, and the roots plentiful and active, these waterings may be given every week or ten days for the next month or six weeks with the most satisfactory results. The waterings in every case should be sufficient to moisten every particle of soil composing the borders, whether indoors or out.

In the case of Buckland Sweetwater and Foster's Seedling now changing colour care should be taken to keep the surface of the soil underneath the Grapes fairly dry, leaving a little air on, together with turning on a little hot water in the pipes, in order to prevent the berries cracking. With the same object in view avoid draughts—that is, when the atmosphere is surcharged with moisture. The same remarks apply to Madresfield Court. Where these three varieties are growing together in one house it is an easy matter to prevent the berries cracking, but it is not so easy when they are growing in a house with late Grapes requiring different treatment as regards moisture at the roots as well as in the atmosphere, in which case the above remarks apply.

A free lateral growth may also be allowed with advantage so as to draw away any superabundance of sap from the above thin-skinned berries. Especially is this desirable in the case of Madresfield Court. A few days ago I noticed that some berries in bunches of Madresfield Court and Foster's Seedling close to the top ventilators on the hip roof which were left open a couple of inches all day and night were cracked, the cause being obvious. I reduced the quantity of air to a minimum, and cut out the cracked berries, with the desired effect, no more cracked berries appearing in the bunches.—H. W. WARD.

THE SUMMER GLORIES OF SWANLEY.

MY first visit to Swanley was paid one bitter day in the winter of 1890-91, when the air was keen with frost and the snow lay deep in the cuttings. It was depressing, too, not one of those brilliant days when winter sunshine acts as an antidote to the cold, and makes one feel cheerful even when Nature sleeps, but dark, dismal, and mournful. But a few hours among Mr. Cannell's magnificent Zonals made all things new. The warm and glowing colours of the flowers seemed to create an atmosphere in which one could thaw in comfort, while in their superb size and form food for contemplation and pleasure was afforded, in which the mists of depression quickly vanished. Alas! disappearance, mysterious but complete, attended the record which should have enshrined in the safe pages of the Journal my thoughts and impressions of what I then saw. It passed away without, like the Kilkenny cats, leaving even a tail behind it, and the veil that hides its fate has not yet been lifted. Recollections of the winter glories of Swanley did not, however, vanish with it, and the revelation, for it was nothing less, of the wonderful beauty and value of the "Geranium" in its highest form for winter flowering has left lasting influences behind it. In the summer time Swanley in general, and the "Home for Flowers" in particular, has a thousand added features of interest. The rapidly rising town is one of the great centres of Kentish fruit growing. Apples, Pears, Plums, and Cherries are grown in vast quantities, while the land devoted to Strawberries may be calculated by hundreds of acres. Mr. Cannell's large nursery at Swanley, with its dozens of long glass houses, is now reinforced by a 300 acre farm at Eynsford, close to the first station from Swanley on the Sevenoaks and Maidstone branch. A garden-farm of 300 acres takes some filling, but energy is inborn with the Cannells, father and son, and much of the land is already smiling with flowers. It is largely devoted to seed-raising, for this department is growing apace, and large supplies are wanted. Notes made there must, however, rest unamplified at present, as Swanley furnished as many as space can be found for.

ZONAL PELARGONIUMS.

The time has not gone by, I hope, for a few remarks on these to be read with interest. I do not wish to speak of them as bedders, though there will probably be a revival of them for this purpose some day,

but as pot plants for greenhouses and conservatories. It would hardly be an exaggeration to say that there is still no flower to compare with them for general usefulness. The round-flowered types present us with many varieties of wonderful beauty. The tawdry, puerile talk about "vulgarity" of colour has no application at all to the pink, rose, and salmon shades, which vie with Begonias in refinement and delicacy. Moreover, the trusses are beautifully furnished—neither thin nor crowded—and symmetrical, while the pips are of great size and substance. A man would have a very large watch in his waistcoat pocket if it proved to be greater in circumference than they are. Consider, too, that it is not one month or two months that a supply of bloom can be had, but in every one of the twelve. A good sound compost, a light house, abundance of ventilation in the summer time, and a temperature of 55° in winter are the salient points to provide. There are no plants of equal beauty of which it is so easy to keep a constant succession by means of cuttings all the year round. I doubt if anyone who has not seen a great collection such as that at Swanley, where the plants fill several 100-foot houses, can realise what magnificent possibilities there are in this old flower.

I give the names of a few of the very best singles. Lord Rosebery, bright crimson, splendid pip and truss; White Lady, pure white, dwarf and free; Lord Salisbury, reddish magenta, very large, beautiful shape; Amphion, beautiful pink; Lady Brooke, white, pink centre, very delicate and pleasing in colour; Marquis of Dufferin, crimson magenta, very fine, Duchess of Fife, deep blush, a flower of much refinement; Stella Massey, bright pink, dwarf and free; Mrs. Robt. Cannell, salmon, very floriferous and beautiful; Ayesha, rosy salmon; Beauty of Kent, beautiful salmon, a very fine winter bloomer; Katherine Morton, light salmon; Mrs. Norman, bright salmon, very large and symmetrical; N. V. Noulens, salmon orange, very distinct and free; Maud of Wales, pink, very large and finely formed; Spotted Gem, purplish pink, lower petals spotted; Mrs. Wildsmith, rosy pink, very large pips and fine truss, one of the most beautiful of all; Ethel Lewis, rosy pink; Duchess of Portland, clear rosy pink, a lovely variety; and Swanley Single White, dwarf and pure, very large. Of the doubles the following are chosen as a few of the best:—Colossus, reddish crimson, of great size; Turtle's Surprise, deep velvety self, fine both as a summer and winter bloomer; Lady Lena, salmon, very free; Golden Rain, orange scarlet, very fine; Gripper Banks, orange red, enormous truss; Miller's Gem, magenta, very distinct and fine; M. D. Raydellet, cerise scarlet; H. M. Stanley, deep pink, large, one of the very best; M. Caro, delicate pink, very pleasing colour; Girome, pink, heavily shaded with purple; Le Congo, deep crimson, dwarf and free; Sombre Horizon, intense crimson; Cardinal Lavigerie, magenta, large and exceptionally fine; Edison, lovely magenta; Lord Hartington, salmon, dwarf and very free; Attraction, bright salmon; Beauté Poitevine, bright salmon, dwarf and free; White Abbey, pure white; Hermine, pure white; and Swanley Double White, dwarf, very free, a splendid winter bloomer.

IVY-LEAVED PELARGONIUMS.

Hardly less remarkable than the display of Zonals at Swanley is that of Ivy-leaved. There is a grand collection of double varieties, probably one of the finest in the country. All the best varieties are represented, and the following comprise a special selection of them:—Beauty of Castle Hill, bright rose, very large flowers, freely produced; Beauty of Jersey, scarlet, shaded purple, large, and wonderfully floriferous; Liberty, soft magenta; Edith Owen, rosy magenta, large, and of good habit; Surcouf, bright pink; Giroflée, purplish magenta; Ernest Bergman, crimson scarlet; Flambeau, scarlet, very rich in colour, one of the most useful of all; La France, lilac; Lamartine, orange red; Souvenir de Charles Turner, deep rose, very large pips and bold truss, a free bloomer, of good habit, undoubtedly one of the finest of all; Galilée, rosy pink; Berthelot, magenta, fine pips; Madame Thibaut, deep pink, large pips, and very free; Jeanne d'Arc, white, suffused with lavender, distinct and good; La Florifère, rosy pink, very floriferous; and Isidore Féral, rose, large, and very attractive. Two beautiful singles are Victoria, rosy pink; and Masterpiece, magenta-crimson. It is very satisfactory to find that the Ivy-leaved varieties are becoming more and more sought after. Although not equal to the Zonals in all-round usefulness they are of great value for various decorative purposes, not the least being their suitability for training over light frameworks of stakes or on trellises, which they quickly cover with foliage and flowers.

The collection of Pelargoniums of all kinds at Swanley is wonderfully large and complete. The Show, Fancy, Spotted, Regal, Bedding, Nosegay and Scented-leaved sections are finely represented, but space does not permit of particulars. Mention ought to be made, however, of the splendid bedding Zonal King of the Bedders, a scarlet variety that is an unmistakeable improvement on Henry Jacoby.

TUBEROUS BEGONIAS AND VERBENAS.

There are several large houses full of Begonias, indeed the stock of plants is enormous. The varieties are, moreover, as remarkable for their fine quality as for their number. There are thousands of large healthy plants of the best type—compact, with large substantial foliage and vigorous stems that carry the flowers well clear of the leaves. Swanley is not behind the times with Begonias any more than it is with other things. The best strains producible or procurable are grown there. I need not give a long list of names, but I must mention two delightful varieties that no garden in the country should be without. Neither is new, indeed they have been out long enough to have spread in thousands

of places where they are not seen yet. Their names are Octavie and Rosebud. The former is white, and as beautiful as any Gardenia ever produced. It is charming on the plant, charming in a buttonhole—charming for everything and everywhere. The plant is a compact grower and a free bloomer. There are finer Begonias than this; there is not one more attractive and useful. The other is a gem, too, delightful both in form and colour. A young flower is as dainty as any Rose. I commend Octavie and Rosebud to the notice of every Begonia lover. To be without them is to be deprived of two of the most beautiful of the whole beautiful race.

The Begonia is the flower of the present, the Verbena of the past. One sighs to think of it when entering the long house of them at Swanley, but it is true. Can nothing save them from the oblivion that is coming so rapidly upon them? They are such old friends that they cannot be parted with without regret. Mr. Cannell has clung to them nobly, but even he is driven to contemplate their dismissal. Seeing them as they are grown at Swanley—large, healthy, with huge Phlox-like heads of bloom and delightful colours—rich, tender, and varied—it is sad to think they are going down hill so fast. It is true they are not the best of plants to manage, and perhaps this has had something to do with their decline. No one would be likely to question the beauty of the best varieties, such as those in the Swanley collection, and their perfume is another point in their favour. Acquisition, rosy red; Ball of Fire, brilliant scarlet; Blue Superb, light blue with white eye; Crimson Gem, very rich in colour; Delicata, pale rose; Flambeau, rosy scarlet; Flocon de Neige, white; Lilacina, lilac; Paragon, claret; Purity, white; Rose Perfection, rose, white eye; and Turquoise, violet, are a dozen fine varieties amongst this grand collection.

PLANTS OUT OF DOORS.

It is too early to say much about Chrysanthemums, but if there are any stronger and healthier plants in existence than those at Swanley, or that will yield better cuttings, I should like to see them. To turn to outdoor plants proper, there is a beautiful bed of Foxgloves ranging from 2 to 5 feet high and full of bloom. I was particularly struck with the grand strain of white. Another feature is a splendid bed of Antirrhinums, the strain of these fine old flowers being such as is rarely seen outside a Scottish fancier's garden. The striped and spotted flowers were magnificent. There must have been 1000 spikes of them. They have a body guard of the fine herbaceous plant *Verbascum olympicum*, rearing its huge spikes of yellow bloom to a height of 8 feet or more. This noble perennial is perfectly hardy, and could be utilised with striking effect in many gardens. Dahlias are planted out on a very large scale and look wonderfully well. Robert Cannell, one of the finest Cactus varieties ever introduced, is in strong force. This beautiful variety, which is of perfect Cactus shape as well as very rich and distinct in colour, should be marked "indispensable" by every Dahlia grower. Another most useful and beautiful plant is the new yellow Marguerite, Branching Etoile d'Or, which is of splendid habit and blooms with wonderful freedom.

Mr. Cannell believes in a nursery being to as large an extent as possible self-supporting, and in his establishment box and basket making for packing purposes find regular employment for several hands. He goes a little further, and lets his men fill up time by making show boxes, so that a customer wishing to exhibit cut blooms has no difficulty in obtaining the necessary conveniences. Another "sundry" is the wasp glass represented by the engraving (fig. 8). These are excellent things for suspending in vineries and elsewhere. With a little sweetened beer they provide an excellent trap for wasps and flies.

These are but a fraction of the good things to be seen during a summer visit to Swanley. A writer would need a whole issue of the *Journal* to do the place full justice. But its gates are always open to visitors, and a cordial welcome is extended to all comers. He would be a learned and experienced man who could visit it without deriving some information, for not only is everything of the best, but the culture is of the highest class. Those who find the busy head of the firm with an hour to spare will be fortunate, for those who know Mr. Cannell best respect him as a man of sound common sense, good judgment, and practical knowledge. If he were not, Swanley would not be what it now is—a town of great horticultural importance and prosperity. Few recognise, perhaps, when they read of the vast quantities of fruit and flowers that are sent thence to the markets every year how large is the share that Mr. Cannell has had in centralising horticultural enterprise and industry upon it.—WANDERER.

THE ARTISTIC AND EFFECTIVE ARRANGEMENT OF PLANTS AND FLOWERS.

(Concluded from page 29.)

HAVING thus referred to the schedule compilers, let us now take a look at the show itself. What is the usual feeling experienced? I well know what it is with me; there is an impression of formality running through the whole. At times we have so many hundred flowers of Dahlias set up in prim green painted boxes, not a vestige of foliage visible, and these staged upon lengths of straight tables. At other times we have fine Asters and Zinnias, staged in like manner. Then again, at some shows we have the lovely Carnations, many of which have been mutilated and dressed, set up in paper collars, and staged in the orthodox green box on the straight table. It is a pity these lovely flowers should be thus presented to the public. Where is the artistic to

be found? Take the queen of autumn flowers, the noble Chrysanthemum. How are these flowers presented to us? They are in boxes, and these boxes have to be made to a required size, so many inches long, wide, and high; and if your flowers happen to be large and extra fine, you must crush them into the box. In looking last season at a magnificent lot of flowers, I saw that this ruthless "staging up" had been carried out, and the result may be given in one word—failure. Many other of our lovely flowers are victims to the same treatment. Now, the public look to the horticulturists to lead in the matter of artistic and effective arrangement of plants and flowers. What, I ask, is the object lesson often given in this respect? We must agree that it is not what it should be, to say the least of it. Mind, I am not saying one word about the flowers themselves, because they at most times represent the highest state of cultivation, but it is the way they are presented to the public that I complain about. Specimen flowers of Chrysanthemums lend themselves to artistic treatment. For instance, if I had thirty-six Japanese blooms to set up, and 4 to 5 feet run of table space allowed for the purpose, I would dispense with the green box at once; have the flowers cut with long stalks, varying from 9 inches to 2 feet in length; each flower should be placed in a receptacle, which would hold water and be heavy enough at the base to prevent overturning; the flower should also have some sort of support to maintain it in an erect position. Having the flowers thus prepared a number of suitable foliage plants should be utilised, say light feathery Palms about 3 feet high, to serve as a background. The flowers are then artistically grouped together with the small foliage plants, Maidenhair Ferns, Asparagus, &c., and edged with *Isolepis* and *Panicum*, so that the whole of the table space shall be hidden by this groundwork of plants and Ferns. The



FIG. 8.—TRAPPING WASPS IN VINERIES.

flowers rising from this would present a marked contrast to the formal box style, and I venture to predict that the public would appreciate the change. Of course this will mean a little more work, but I do not think the man who has looked after his plants for nearly twelve months would grudge this. Time will not permit me to go into detail of an artistic setting up of each of the classes of flowers which are usually found staged in the green boxes, but the instance I have given of the Chrysanthemums will give you some idea of a more artistic treatment.

While on this subject of flower shows perhaps I may be allowed incidentally to say a word or two in respect to stove and greenhouse plants in flower. These are usually presented on balloons of faultless shape, and each shoot tied into a mathematically accurate position, forming in my opinion one huge contortion, as useless as it is ugly. Could not these be trained in a more pyramidal form, and the shoots allowed to have a natural sway, not being tied closely in? I remember seeing one such plant at a show, a *Bougainvillea* I think it was. It formed a picture, and favourable comment was freely bestowed upon it. Some plants answer better to this treatment than others, as I am fully aware, but the change to the more natural would be a step in the right direction. The arrangement of groups of plants at exhibitions has in the last few years wonderfully improved. A more natural idea has been followed up; ugly banks of plants are disappearing, and the light and artistic treatment is taking its place. One has only to visit metropolitan or large provincial shows to gain an object lesson, from which more practical knowledge can be gathered in five minutes than could be learned from any amount of paper and books. The arrangement of flowers in baskets, bouquets, vases, &c., at country flower shows exhibits a lack of knowledge of the rudiments of the artistic. Here we find the flowers packed together, jumbled up in inextricable confusion. At some shows at which I have judged I have found great difficulty in awarding the prizes, and after deciding which is the least ugly—for ugly they all are—the first prize has to be bestowed on a most unworthy object. Now how does this act? Simply in this way. The people seem to look upon this first prize ugly thing, be it bouquet, basket, or vase, as an ideal, and next year, when the show comes round, all

strive to copy it. Much good might be done if one could undertake some amount of teaching in this respect, by providing a bouquet, vase, or basket properly and well done to serve as the ideal at which the competitors might aim; this would, I believe, create a taste for the artistic where little now exists.

In making the foregoing remarks I am speaking of the generality of shows, but there are places where the arrangement is excellent. Flowers must be well arranged and colours blended to be well appreciated. In many cases it is not the size of the individual flowers which charm us most, but those that are set up artistically, with care and grace, that claim our attention and praise. With regard to bouquets, wreaths, and designs composed of flowers, we as a nation are well to the fore. Generally speaking, we have an artistic notion of the arrangement, and follow the natural, whilst the Americans work on rather a more formal method. This I feel is creeping on us, but I hope it will not extend; for what beauty there can be in a piano or chair or such like things made of real flowers I cannot imagine. Bouquets or posies of flowers should be made lightly, so that each flower may be easily seen, with no crowding whatever, and foliage should be used to enhance the effect of the flowers, so making what may be termed a lovely bunch of flowers and having a natural appearance.

Up to the present I have dealt more with artistic than effective arrangement, and I now feel it incumbent upon me to give my ideas respecting the latter. When I used the word effective I mean that result which is produced by bold treatment of plants and flowers, by judicious grouping and massing. Many plants gain greatly by being planted in masses. What can be a fairer sight than a bold group of Rhododendrons in full flower, backed up by foliage trees, or a fine bed of Azaleas on a large lawn? This system of massing is often much abused. At times we see masses of one colour, then of another, and another, the result of which is a poor effect, whereas had more foliage been used and the masses of colour placed further apart, a much finer result would have been obtained. When we refer to Nature we cannot but notice how unobtrusively she presents to us her masses of bloom. What a wonderful effect a piece of rustic scenery with a mass of Bluebells, Lily of the Valley, single Narcissus, or Buttercups has. Although it is a mass of bloom it is not crowded and crushed together, or one mass spoiling the effect of another. There should not be a formal appearance to the massed plants, be they what they may. This is a danger which cannot be guarded against too carefully. Where there is plenty of room, say in large grounds around a mansion, I like to see large clumps here and there of Lilies, Roses, Phloxes, Hollyhocks, Foxgloves, Campanulas, Irises, Dahlias, and Sunflowers, each family of plants steering well clear of its neighbours, so as to prevent any clashing. Of flowers that gain by bold treatment we may take the Rose. What a glorious sight is presented by a bank of these flowers similar to those set up at some of our great flower shows. The effect is greatly enhanced by the liberal use of Maidenhair Ferns as a groundwork and fringe to the group. Cut flowers and flowering plants must have Ferns or foliage to show them off to anything like advantage. A box of flowers set up for exhibition has a bare and hard appearance without foliage. Take, again, an exhibition group of Chrysanthemum plants which we frequently see at some of the large autumn shows. It is a mass of flower set up at a perfect angle and a faultless semicircle in shape, but a finer effect would be gained if the exhibitor had a little more space allowed him, and Palms and foliage were employed at the back, and Ferns in front. This would alter the effect of the hard and formal group, and it might then claim to be considered artistic.

Just for one moment I should like to allude to conservatory decoration, and urge a less formal arrangement of the interior. In some instances we have beautiful examples of the artistic and effective arrangement of plants and flowers, and of interiors fitted up in an artistic manner, but more often we have presented the formal stage and straight path. What we want is a miniature landscape garden, as it were, under cover, and to let our plants grow in a more natural form than all in a row of pots. Many of our lovely greenhouse climbers are not grown nearly as much as they should be, nor are the walls utilised to the extent they might be. I have seen some covered with Gloxinias, Begonias, and Ferns presenting a glorious appearance. The peat and loam in which these grow is fixed to the wall by wire netting, the Fern and Lycopodiums seen covering this, and the result is most effective. I plead all round for a less formal and more natural and artistic treatment. I believe there is still much before us in the way of improvement in this phase of horticulture, and it is gratifying to find men striving for it.—G. P.

ROSE SHOW IN DUBLIN.—The Royal Horticultural Society of Ireland's Rose Show was held in Lord Iveagh's grounds on July 7th. There were several handsome prizes in competition. One was a challenge plate, value £24, presented by the horticultural seed trade of Dublin, for thirty-six blooms, and which must be won three times before becoming private property. The Society added £2 in money, also £2 to the second, and £1 to the third. The winner was Mr. Colohan, gardener to D. M. Wilson, Esq., Windsor, Monkstown; Mr. Porter, gardener to Lord Ashtown, Woodlawn, Co. Galway, being second; and J. G. Nutting, Esq.'s gardener third. A challenge cup or piece of plate, value 21 guineas, with £5 added annually, was offered by Hamilton Drummond, Esq. This was won by Mrs. Robertson's gardener, Mr. Porter being second, and Mrs. Tedcastle's gardener third.



EVENTS OF THE WEEK.—The show list for the current week is again a heavy one. To-day (Thursday, July 21st) there are Exhibitions at Highgate, Aylesbury, Barnet, Trentham, and Worksop. On Friday, the 22nd, there are Rose Shows at Ulverston and Manchester, the latter being continued on Saturday. The Northern Show of the National Pink Society is held in conjunction with it. The National Chrysanthemum Society's picnic at Penshurst is also held on Friday. On Saturday, the 23rd, there are Rose Shows at Bedale and New Brighton, the Midlothian Rose and Pansy Exhibition taking place on the same day. Acton Show is fixed for Wednesday, the 27th; and that of the Hesse and Howdenshire Society for the 27th and 28th. There are Rose Shows at Halifax and Southwell on Thursday, the 28th. There will be a sale of Cattleya Victoria Regina and other Orchids at Protheroe & Morris's rooms on Friday, July 22nd.

— **THE WEATHER IN LONDON.**—The weather has been very unsettled during the past week. There were a few local showers on the 16th inst., and on the 17th there was a steady downpour of rain throughout the greater part of the day, the temperature, too, being perceptibly lower. The 18th was fine and bright until evening, when rain fell heavily. On the 19th a barometrical depression of considerable intensity reached London from the north, rain commencing to fall heavily about noon and continuing for the remainder of the day. The weather was cold also. On the morning of the 20th high north-westerly winds prevailed, the weather being cold, changeable, and threatening.

— **ROYAL HORTICULTURAL SOCIETY.**—The next meeting of the Society will be held in the Drill Hall, James Street, Victoria Street, London, S.W., on Tuesday, July 26th. In addition to the ordinary exhibits, the National Carnation and Picotee Society holds its annual Show, in which the special prizes offered by Mr. Martin Smith will be competed for. At 3 P.M., Mr. A. J. Manda of the United States Nurseries, Hextable, Swanley, will give a lecture on "Insect-eating Plants," in connection with which many exhibits are expected.

— **ROYALTY AT EARL'S COURT.**—Their Royal Highnesses Prince and Princess Henry of Battenburg paid a visit to the International Horticultural Exhibition at Earl's Court last Saturday week, and were conducted through the grounds by Mr. Milner. They stayed for some time in the house for insectivorous plants, and had the beauties of the Orchids, Nepenthes, Sarracenias, &c., exhibited by Messrs. B. S. Williams & Son, pointed out by Mr. H. Williams, and they expressed themselves highly gratified with the collection they had seen.

— **A VALUABLE SUMMER CHRYSANTHEMUM.**—At the late Portsmouth Show, held on July 13th, Mr. Agate, Chrysanthemum Nurseries, Havant, obtained a first-class certificate for a seedling Chrysanthemum named Lady Fitzwygram, which is the best of the summer flowering section. It partakes of the character of Avalanche in the flower with perhaps a trifle more looseness in the petals, which are snowy white and about 4 inches in diameter. The habit of growth is everything to be desired, plants now flowering in pots being not more than 1 foot to 15 inches high. It is a decided acquisition where pure white early flowers are in demand.—E. MOLYNEUX.

— **SHEPHERDSWELL HORTICULTURAL SOCIETY.**—At the monthly meeting of the Horticultural Society held on Monday the first prize for a collection of vegetables grown by gentlemen's gardeners was awarded to Mr. W. Golder, gardener to the President (W. J. Smith, Esq.) whose exhibit included an excellent dish of Tomatoes. The second prize was awarded to Mr. W. Ashdown, gardener to K. H. Wills, Esq., who also won a prize for greenhouse plants. The President's prize for the best collection of vegetables grown by a cottager was awarded to Mr. J. Ash. Prizes for vegetables were also awarded to Mr. J. C. yer and Mr. W. Hughes, each of which also won prizes for window plants. Mrs. Smith's prize was awarded to Mr. J. Fox for cut flowers. The Royal Horticultural Society has made a grant to the Shepherdsweil Society of one of its bronze Banksian medals, to be awarded to the cottager whose collective exhibits at the annual Show are considered by the Judges the most meritorious.

— **DR. REGEL'S SUCCESSOR.**—It is announced that the directorship of the Imperial Botanic Garden at St. Petersburg, left vacant by the death of the late Dr. Von Regel, has been assumed by Dr. A. F. Bataline.

— **DEATH OF MR. J. MATTHEWS.**—We learn with regret of the death of Mr. J. Matthews, who, until about six years ago, was head of the well known potteries at Weston-super-Mare, now conducted by Mr. Conway G. Warne. He was in his sixty-seventh year, and was greatly respected by all who knew him.

— **VICTORIAN VINEYARDS.**—Victorian vineyards, says a daily contemporary, now cover nearly 16,000 acres, and turn out over 1,500,000 gallons of wine per annum. No other colony approaches this. It is nearly three times the output of New South Wales. South Australia produces 510,000 gallons from 7,400 acres.

— **THE CAUSE OF COLD SUMMERS.**—Have your readers any notion of the cause of this wintry weather we are experiencing in Lanarkshire? Is it due to warm weather in the far North melting the icebergs and the vapour floating here? Just to show the state of matters our few Apples are no larger than Cherries yet, and many other things make no progress. The severe storms of wind we have had did much damage, and were unprecedented in the memory of the oldest man. —W. T.

— **A RECORD RAINFALL.**—Mr. W. Taylor writes from Bath:—"I send you a cutting from a local paper showing that we have at last had some rain. I do not remember seeing such a downpour. Nearly all of it fell between 2.15 and 4 P.M. We shall be tolerably free from dust the next few days, for it is all washed away." The cutting is as follows:—"The amount of rain which fell on Saturday—that is, throughout the whole day—was, according to the reading at the Institution, 1.680 (or nearly 1½) inch; quite a phenomenal amount for the time of year. The barometer was not much disturbed by the storm, and has since been rising."

— **EDENBRIDGE GARDENING SOCIETY.**—The usual meeting was held on Thursday evening, when there was a good attendance of members, the competition being for professionals, for the best dozen cut Roses, in six varieties. There were eight entries, the first prize being taken by Mr. M. Oliver, the second by Mr. Ware, the third by Mr. Dove, and extra third by Mr. G. Anscombe. The whole of the exhibits were of excellent merit, and made a good show. Mr. E. Boxall read an excellent paper upon the cultivation of Chrysanthemums, which provoked a considerable amount of discussion. Mr. G. Anscombe proposed, seconded by Mr. T. Smith, a hearty vote of thanks to Mr. Boxall for his paper, which was acknowledged.

— **NATIONAL CARNATION AND PICOTEE SOCIETY (SOUTHERN SECTION).**—The sixteenth annual Exhibition of the above Society will be held in the Drill Hall of the London Scottish Rifle Volunteers James Street, Westminster, on Tuesday, July 26th. Seventy-four prizes are offered in sixteen classes. Special prizes are also offered for border Carnations by Martin R. Smith, Esq. The Exhibition will be open to visitors at 1 P.M. A luncheon will be provided at the Hotel Windsor adjoining the Hall at 1.30 P.M., for members and their friends. Tickets are 2s. 6d. each. The "Carnation Manual," which has been in preparation for some time, is nearly ready, and will be published by Cassell & Company, Limited, about the first week in August.—JAMES DOUGLAS, *Hon. Secretary*.

— **BALSAMS AT CHISWICK.**—The Paxton house in the Royal Horticultural Society's garden at Chiswick is now very gay with Celosias and Ivy-leaved Pelargoniums, but the chief attraction is the Balsams, which are very fine. The plants have been grown from seed saved from the best plants grown last year from Barr's Criterion strain. Seeds were sown this year very early in May, in heat, and as soon as possible the plants were potted singly into 60's and kept in a temperature of 60° to 75° Fahr. When well rooted the plants were transferred to 48's in a mixture of loam, leaf soil, horse droppings, and sand, and kept in heat near the glass until well established. They were then taken to a cooler house, and as soon as they were hardened they were ready for being finally potted into 24's. With plenty of water (often given four or five times a day) and air they soon become fine healthy vigorous plants, and are now producing quantities of large and very double flowers, the colours ranging from white through pink to ruby and purple. Beyond a rich soil to grow in, these plants have received no stimulants of any kind, and are as fine a batch as one could wish to see.—C. K.

— **CISTUS PURPUREA.**—On a newly-made rockery in the High Street, Winchester, I lately saw this Cistus, and thought what a grand rockery plant it is, growing so dwarf (1 foot) and bushy. The flowers are fully 3 inches in diameter, deep purple in colour, and freely produced. It is one of the best of the genus.—E. M.

— **CELOSIAS OR FEATHERED COCKSCOMBS.**—These, as shown at the Bath Rose Show by Messrs. Sutton & Sons, Reading, were worthy of special mention. There was quite a long row of very sturdy plants all having branching plumes of the brightest red and yellow shades. The seed from which these plants were grown was sown late in January, and the plants grown rapidly in a light position and brisk heat. A certificate was awarded, a similar honour being also accorded to the beautiful Gloxinias Her Majesty and Duke of York.

— **DWARF CANNAS.**—A conspicuous feature in the group of miscellaneous plants arranged at the Bath Rose Show, but not for competition, by Messrs. R. Veitch & Son, Exeter, were the dwarf flowering Cannas. For pot culture this race of Cannas are of the greatest value. They are of easy culture, very showy, and continue to flower for several months together. Some of the best were Jules Chrétien, very dwarf, flowers of a deep scarlet colour; Little Jenny, orange, scarlet-edged, spotted with clear yellow, and very effective; Victor Hugo, bright scarlet; Antoine Chantine, orange scarlet, yellow centre; and Alphonse Bouvrier, flowers and spike extra strong, colour deep scarlet.—I.

— **UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.**—The quarterly meeting of this Society was held on Monday evening, July 11th, at the Caledonian Hotel, Mr. Joseph Wheeler in the chair. One new member was elected, making a total in the two quarters of thirty-seven. Sickness among the members has been light during the quarter, two only being on the funds at the present time. The annual dinner will take place the last week in September, due notice of which will be given. It is proposed to present the Treasurer (Mr. James Hudson) with a testimonial on the occasion for his valuable services during the past ten years.

— **THE REPRODUCTION OF FERNS.**—The monthly meeting of the Sheffield, Hallamshire, and West Riding Chrysanthemum Society took place on July 13th, when an interesting display of foliage plants, for which prizes were awarded to professionals and amateurs, formed a feature of the meeting. A short paper by Mr. J. Eadon, on "Reproduction of Ferns," was delivered, in which he traced the progress of knowledge on the subject from the year 1792 to the present time, and explained the best-known methods of obtaining new varieties by cross-fertilisation. An interesting discussion took place afterwards, and the meeting concluded with votes of thanks to the essayist and the Chairman (Mr. J. G. Newsham, also a Fern grower), who added to the interest in the subject by some lucid explanations of difficult points.

— **THE PREVENTION OF POTATO DISEASE.**—Although a number of experiments were made in Great Britain and Ireland last year to test the value of the bouillie bordelaise as a preventive and cure of Potato disease, none of them were carried out in identically the same manner as the successful experiments by Dr. Aimé Girard, the chemist to the French Government, and it has been pointed out more than once in "The Times" that to be of any real value this should be done. It is gratifying to learn that this will be the case in one important series of experiments this year. Messrs. James Carter & Co. have at Bromley, in Kent, a piece of Potatoes, about an acre in extent, in which ten varieties are planted in as many rows, each of which goes the full length of the acre. This they determined to give up for an experiment, and, in order that it should be carried out in M. Girard's method, the whole experiment has been placed in the charge of our agricultural correspondent. The first dressing was given on Monday last, the mixture being applied at the rate of 29 lbs. of sulphate of copper (98 per cent. of purity), 29 lbs. of lime, and 100 gallons of water per acre. The land was divided into four parts of equal size, the first and third being dressed with the mixture and the second and fourth left undressed. The mixture was applied in a fine spray by means of the small knapsack distributor—the anti-pest—the working of which was superintended by the inventor, Mr. G. F. Strawson. The Potatoes, which were planted on April 8th, have at present no appearance of disease, but should any appear in the undressed portion of the field the mixture will be at once applied over a small portion in order to test its powers of checking the disease. The dressed plots will have another dressing later on, and at the time of lifting the results on both the dressed and undressed plots will be carefully noted.—("The Times.")

— **THE POTATO SCAB.**—The Potato "scab" is intelligently discussed in a bulletin from North Dakota, a great Potato-growing region, and a few preventive points given which may save many a crop from partial destruction. It says that scabby seed Potatoes will produce diseased crops; that healthy seed in a soil free from the scab or other diseases will alone give satisfactory results; that the disease germs of the scab often remain in the soil from season to season unless some means are taken to destroy them, and that diseased seed can, by being soaked in prepared solutions of chemicals, be made healthy and free from all taint. Corrosive sublimate has so far proved the most effectual for this work, and 2 ozs. of the poison in 2 gallons of hot water is the proper proportion. This should be stirred thoroughly, and then poured in a barrel containing 13 gallons of water. The seeds can be immersed in this for half an hour, then dried and cut up for planting. The solution can be used several times.

— **FRUIT AND VEGETABLES AT BEDFORD.**—The former as stated by a correspondent who favoured us with a report of the Rose Show on page 62 was remarkably good. Mr. G. R. Allis, gardener to Major Shuttleworth, Old Warden Park, was first for a fine basket, Pines excluded, and Mr. Empson second; Mr. Empson leading for black and white Grapes and for a Melon, his bunches of Madresfield Court and Foster's Seedling being evidently the produce of Vines in the highest state of perfection. Mr. Allis showed some fine specimens of Waterloo, Latest of All, and Oxonian (Eleanor) Strawberries, obtaining first for three varieties and also for very fine Royal George Peaches. Vegetables were generally good, but Potatoes hardly up to the usual Bedford standard, Mr. G. Robinson gaining first for the collection of twelve kinds, and also taking Messrs. Sutton's prizes for six varieties and for six dishes of Potatoes and also for a collection of Salad. Mr. W. Kingston, Bedford, secured first prize in both classes for collections of Peas, staging Alderman (very fine), Duke of Albany, Duchess, Stratagem, Autocrat, and Charmer. Mr. Allis was first with twenty-four pods of Alderman in a strong competition.

— **DEVON AND EXETER GARDENERS' ASSOCIATION.**—The Exeter Gardeners' Association formed last year now numbers a hundred members. They meet in the winter months, but they decided some time ago to have a summer meeting in order to visit some of the more notable gardens in the neighbourhood. This event took place recently, when about seventy of the members turned up, amongst them being fifty-five practical gardeners, and the others being amateurs and honorary members of the Association. The places chosen for the visit were Winslade, the seat of the Rev. A. W. Hamilton Gell; Bystock, the seat of Mr. J. P. Bryce; and Bicton, the seat of the Hon. Mark Rolle. At a dinner subsequently held the chair was taken by Mr. Andrew Hope, who discharged the duties of the position with his customary efficiency and geniality. At the conclusion of the repast the loyal toasts were honoured, after which the Chairman proposed "Success to the Association." He explained how the Association was started, stating that the idea originated with his co-secretary, Mr. T. E. Bartlett. It had worked most satisfactorily, and great benefit had resulted from it. They had already over one hundred members, and there was a balance in hand at the end of that, their first season, of £10.

— **ARSENIC AS AN INSECTICIDE.**—A bulletin from the Iowa Agricultural Experiment Station treats upon the use of various forms of arsenic, and in various ways as an insecticide, and their effects upon the foliage. The conclusions which they give we condense. The oldest leaves and those affected by a fungus disease are more susceptible to injury than young or healthy leaves. Dews and probably direct sunlight increase the injury done to the foliage, but applications made in bright sunlight or in the heat of the day do no more injury than those made in the cool of the day. Showers after application lessen the liability of injury to the foliage. When freshly mixed, London purple is most and white arsenic least injurious to the foliage, but if the arsenic stands long in the water before using it will do much greater injury than when freshly mixed. Lime added to arsenic when first mixed causes it to injure the foliage more, but when in solution, as when London purple or Paris green is used, it does not affect the foliage as much. London purple can be used eight or ten times as strong without affecting the foliage if the Bordeaux mixture is used with it. All the arsenites mix with resin compounds and with carbonate of copper solutions, and do no more harm than when mixed with water alone, but in sulphate of copper solution they injure the foliage much more, and so they do in soapy solutions. They do not mix readily with kerosene emulsions.

— **FRUIT GROWING AT THE CAPE OF GOOD HOPE.**—A circular has been issued by the Agent General for the Cape of Good Hope, 112, Victoria Street, London, S.W., giving information with respect to fruit growing on a large scale at the Cape. Under certain specified conditions it is pointed out that there are good openings for fruit farmers. The following extract from the report of Mr. P. Macowan, F.L.S., the Government botanist, is significant, but we are not guiltless in respect to this matter. "The quality of fruit marketed is largely deteriorated by want of enterprise in arranging for its proper packing and transit. It is shaken down and tumbled into old gin cases and the like for jolting to market, hence it must be only three-quarters ripe to bear the rough usage without being turned to unsaleable pulp. Grapes are sent by tolerably careful growers in small baskets and arrive fairly well. The ordinary small farmer is satisfied with piling the bunches loose in the back of his cart till he has perhaps a hundredweight or more, and this mass he hawks about town as if it could be called fruit for the table. Of late years a very few of the leading growers pack their choice fruit, after selection and grading to size, in baskets and boxes containing a given number according to name and sample. But this care is quite exceptional; and the average fruitist here has yet to learn the first principles of marketing his produce. I cannot more suggestively point out the crude conditions of supply than by quoting the common phrase among sellers that 'spare' the fruit to the customer."

— **BRIGHTON AND SUSSEX NEW HORTICULTURAL AND MUTUAL IMPROVEMENT SOCIETY.**—At a largely attended meeting of the above Society, Mr. Balchin in the chair, a letter from the Committee of the Chrysanthemum Society was read, to the effect that they were in favour of the amalgamation of the two Societies at the end of the financial year; and it was resolved that the joint Committee meet at the Imperial Hotel on Thursday evening, the 21st inst., to discuss details. Fifteen new members were elected. Some interesting exhibits brought by members were on the table, amongst which were some branches of Red and White Currants by Mr. E. Bunney of Coneyborrow, showing an immense crop of fine large fruit. From Hassocks Nurseries some sprays of Orchids were shown, Mr. Richardson, Messrs. Balchin's manager, intimating that they had all been subjected, during the winter months, to a much lower temperature than was generally supposed necessary for their successful culture, and that, if kept rather dry, many others can be grown under the same treatment. Mr. J. Bunney of Danny Park had a collection of early vegetables, and made some excellent remarks upon their good points. Mr. R. Miller of Shoreham handed round a pot of Strawberry jam, with a spoon to taste it. It was made from fruit gathered in a soaking rain in July, 1889, and has kept till now quite sound. The whole proceedings show that the gardeners and amateurs of Brighton have taken up with spirit the work of mutual improvement.—R. I.

— **COMMON CARNATIONS.**—An hour or two before I read Mr. Martin Smith's criticism of my note on common Carnations in a recent issue I came upon a wayside garden in which there were spreading masses of Pinks nearly a yard across and laden with flowers. They were common border varieties every one, most of them single, but their myriad tender-hued blossoms filled the place with brightness and the air around with perfume. I thought that in no great garden which I had ever entered had I seen a display of flower beauty more glorious than that which surrounded this cottage home. They reminded me of another garden in which, later in the year, Carnations are to my mind a dream of beauty, but they are of the same untutored race; and of yet another garden wherein Roses are grown, that in spite of their wealth of bloom no exhibition box ever contains. Florists see no beauty in such types as these, but all are not so blind. The choice varieties are beautiful too, but they serve a different purpose. I do not depreciate them, but on the contrary I admire them deeply and hope to see their culture widely extend. There is not one of them, however, which I have grown or seen that can vie with the common border varieties I have in my mind for freedom of growth and flowering. Plants that seem almost as full of flowers as a sheaf of corn commend themselves to me as generous, graceful and beautiful. If each individual flower is not up to the florist's standard, what matters it? Mr. Martin Smith would make the difference between the types a question of good and bad. I deplore such a view being taken. They serve different purposes altogether, and each is good in its way. As it is Rose time let me take an instance from the queen of flowers. If I want blooms for the exhibition board I dare not forget Souvenir d'Elise, if for a wall in the free air I look beyond it to Gloire de Dijon.—P.

— POTASH AND WIREWORMS.—Although the New York Experiment Station found no advantage in using potash to kill wireworms, the New Jersey Experiment Station reports that on a farm in Somerset, N.J., a 14 acre field was divided into two sections, one being fertilised with muriate of potash, and the other with kainit, a strip of seven rows being left between without anything to make the test more perfect. The whole land was known to be badly infested by wireworms and cutworms. On the part where the kainit was used the corn came up well, and was not molested by insects at all. Where the muriate was used there was but little injury, but on the strip between, where neither was used, which run the whole length of the field, the crop was almost entirely destroyed by the worms. This was not intended as a test of the effect of these fertilisers in killing or driving away worms, but its effects were so marked that the owner could not help noticing them.—(*American Cultivator.*)

HORTICULTURAL SHOWS.

WOLVERHAMPTON.

AS was intimated last week, this extensive Show demanded further reference than could be given then. The chief prizewinners in the open Rose and fruit classes were given on page 41, and the winning varieties of Roses are recorded on page 65 of the present issue. The Exhibition was the fourth that has been held under the present able and energetic Committee, and was remarkable for its extent and diversity, five very large marquees being requisite for the accommodation of the exhibits. With fine weather the Wolverhampton Shows are well patronised. No fewer than 70,000 persons attended last year, but we have not heard the number of visitors to the Show last week. We now give a necessarily compressed report of the plant and other classes.

The prizes of £20, £15, and £10 brought out Mr. Cypher and Mr. Finch, gardener to Mr. Alderman Marriott of Coventry, and here, as at Shrewsbury, both exerted their strength, and made grand displays of specimen plants. Mr. Cypher was a good first with splendid plants, amongst them being fine examples of *Ixora Reginae* and *Williamsi*, *Erica ferruginea major*, *Kalosanthes coccinea*, *Anthurium Schertzerianum major*, with grand spathes; a splendid *Bougainvillea*, and a monster *Croton angustifolius* in superb colour. Mr. Finch was a capital second, and Mr. Currie a somewhat distant third. For six plants in flower Mr. Cypher was again first with very fine specimens of *Phenocoma prolifera Barnesi*, *Allamanda nobilis*, *Bougainvillea glabra*, *Stephanotis floribunda*, *Ixora Reginae*, and *Erica Parmenteri rosea*, all most difficult to beat. Ferns and fine-foliage plants were plentiful and of first-class quality.

In the class for eight exotic Orchids Mr. Cypher was first with grand plants of *Cattleya Leopoldi* and *Gaskelliana*, *Dendrobium filiforme* and *Dendrobium infundibulum*, *Lælia purpurata*, *Anguloa Clowesi*, *Cypripedium Curtisi*, and *Oncidium maeranthum*.

Four groups were arranged in the class for not exceeding 450 square feet. Here Mr. Cypher was also first with a very fine group of an irregular outline, a very pleasing general arrangement. Second, Mr. W. H. Dyer, gardener to Mrs. Marigold. Third, Mr. J. E. Knight, nurseryman, Wolverhampton. Fourth, Mr. Currie.

There was a section for gentlemen's gardeners in Staffordshire and the adjacent counties. In the class for six stove and greenhouse plants, Mr. Finch was first with *Erica Parmenteri rosea*, *Ixora salicifolia*, a *Bougainvillea*, and three splendid Palms. Mr. Dyer was second with very fine *Kalosanthes coccinea*, *Clerodendron Balfourianum*, *Allamanda Hendersoni*, *Dipladenia crassinode*, and two large Palms. For six Orchids Mr. Finch set up some excellent specimens, and easily won the first prize with *Sobralia macrantha*, 3 feet through, dwarf and superbly bloomed; *Vanda suavis*, *Cypripedium barbatum*, *Dendrobium Deari*, *D. suavisimum*, and *Lælia purpurata*. Second, Mr. Powell, gardener to G. H. Kenrick, Esq., Birmingham, with fine specimens.

Zonal Pelargoniums made a brilliant display, and Fuchsias, Coleuses, and other plants, especially Tuberosa Begonias, were well represented.

For six Begonias, J. E. Underhill, Esq., was first with some well grown plants, averaging 1½ to 2 feet through, of fine sorts well flowered, and the same exhibitor scored heavily with a collection of well done Gloxinias. In this section, Mr. Powell, gardener to G. H. Kenrick, Esq., was first for a group of much beauty and taste in arrangement. The cut flowers in this section were well represented, and there was only one class for fruits. For a collection of vegetables, not less than eight varieties, Mr. Coombes, Himley Gardens, was first with nine varieties, all first class, and Major Williams second.

The amateur classes, some twenty-four, for those who do not keep a gardener and reside within ten miles of Wolverhampton, were well filled with about eighty exhibits, and the cottagers' twenty-nine classes were represented by over 150 entries, many of the vegetables especially being good. Liberal extra special prizes are offered here by the great seed firms for vegetables. Messrs Webb & Sons' prize for a collection of vegetables, was well competed for. First, Mr. Wilkins, gardener to Lady Guest. Second, Mr. Waite, gardener to the Hon. W. P. Talbot. Third, Mr. Meakin. For Messrs. Carter & Co.'s prizes for collections, first, Mr. Waite. Second, Mr. Wilkins. Third, Mr. Milner, gardener to Miss Talbot. For Messrs. Sutton's prizes for collections, first, Mr. Waite. Second, Mr. Wilkins. Third, Mr. McIndoe, Hutton Hall Gardens.

Miscellaneous exhibits were also very numerous. Messrs. Birkenhead had a very extensive collection of Ferns; Messrs. Webb & Sons a large

display of vegetables; Messrs. Sutton & Sons, Reading, a very large display of Gloxinias, including several plants of Her Majesty, their superb new white, to which a certificate was awarded; several plants of their exquisitely netted strain; and plants of Duke of York, a wonderfully fine variety, rich scarlet with a distinctly marked band of white and of the most perfect form, to which a certificate was awarded. Messrs. Sutton & Sons also staged some excellent dwarf Cockscombs and dwarf Celosias. Messrs. H. Cannell & Sons had a fine display of blooms of double Begonias, chiefly seedlings, very fine in quality, prettily set up in spray form. Mrs. George Boyson and Mrs. Cornwallis West were greatly admired amongst others. Messrs. Thomson, Birmingham, had two good stands of Carnation and Picotee blooms, a good display of Violas, and other flowers; Messrs. Hewitt & Co., Birmingham, a large display of cut herbaceous plants, a stand of Malmaison and Germania Carnation blooms, and a fine lot of double and single Begonia blooms; and Messrs. Clibran & Sons cut hardy herbaceous and other flowers. Messrs. Cutbush & Sons had also a collection of miscellaneous plants. Messrs. Perkins & Sons, Coventry, took the lead in the bouquet classes.

Much praise is due to Mr. Green and his son for their excellent work in connection with the Show. The park is in admirable condition, rich in floral beauty, the long curving border lines of Violas having an imposing effect.

A new feature was added to the general Show, on the third day, in the form of special prizes in the open classes. For twenty-four distinct varieties of garden decorative Roses staged in bunches, and for twelve bunches also, Messrs. G. Cooling of Bath were well first with a surprisingly charming display including many very old kinds, such as the old common China, Moss Lanei, Felicite Perpetue, Noisette Aimée Vibert, N. Jaune Desprez, La Neige, Gloria Mundi, Crested Moss, York and Lancaster, Common Moss, L'Idéale, two grand bunches, striking in colour; Paul's Single White, very charming indeed; Papillot, Paul's Single Crimson, very fine; Céline Forestier, Pepita, Pissardi, Gloire des Polyanthes, W. Allan Richardson, Mignonette, Mrs. Bosanquet, and others. Mr. J. Townsend was second for twenty-four varieties, having in this stand fine bunches of Crested Moss, or Provence, and *Rugosa himalayensis*, very fine. Messrs. Cooling were also first for twelve varieties of these garden Roses, with a grand cluster of L'Idéale, Paul's Cheshunt Scarlet, Double Scarlet Sweet Briar, Noisette Lamarque, Old China (?) Fellenberg, and *rugosa* varieties. Mr. Coombes, The Gardens, Himley, was an excellent second with fine bunches, amongst them the Old Hybrid China fulgens, also William Allan Richardson in fine condition. These varieties appeared to excite more admiration, from ladies especially, than many of the ordinary exhibits, and to a great many they were a surprise.

PINK SHOW.—The Midland meeting of the National Pink Society was held in connection with the Exhibition. In the class for twelve blooms of laced Pinks, dissimilar, first Mr. A. R. Brown, florist, Handsworth, Birmingham, with Fellowes's Jeannette, heavily laced, bright in colour, and of full size; Amy (Brown's), a superb bloom of this very fine variety, really the best Pink in cultivation (this bloom also took the premier for purple laced); Minerva, an improvement on Bertram, Boiard, Ethel (Brown's), very fine; Modesty, also very fine; Maclean's Ernest, Empress of India, very fine; Paul's Bertha, Harry Hooper, Campbell's R. L. Hector, a new and promising variety; and a very fine bloom of Thomas Godfrey. Second, Mr. C. F. Thurstan, Wolverhampton, with a very fine bloom of Duke of York, a great improvement on Boiard, a well built flower and very bright, but deep in colour (this bloom also took the premier in the red-laced class); Duchess of Fife (Thurstan's), much lighter in colour than Modesty and looks like a seedling from it, the lacing somewhat irregular, but very distinct and striking; a fine bloom of Modesty, Ada Louise, James Thurstan, and others. In the class for twelve blooms, not less than six varieties, Mr. Brown was again first with a grand bloom of Amy, Boiard, Ethel, Ernest, fine in colour and form; Bertram, Minerva, Godfrey, and a very fine bloom of Empress of India. Second, Mr. R. Sydenham, who had in his stand a fine bloom of Boiard, Hooper's Ne Plus Ultra, which is very like Boiard; and a very pretty bloom of Modesty. Third, Mr. Thurstan, who had good blooms of Duke of York and Modesty.

In the class for six blooms of laced Pinks, dissimilar, Mr. Brown was first with Amy, Ada Louise, Minerva, very fine; Ophelia, Bertha, and Empress of India. Second, Mr. C. F. Thurstan, a fine bloom of Modesty being in his stand. Third, Mr. Sydenham. Fourth, Messrs. Thomson & Co. Fifth, Mr. Thurstan, Cardiff. For six blooms, not less than three varieties, first, Mr. Brown with Minerva, very fine; Bertram, Rev. L. Hector, Rosy Morn, and two blooms of Amy, one especially fine. Second, Mr. C. F. Thurstan. Third, Mr. Samuel Barlow. Fourth, Mr. J. Jester, West Bromwich. Fifth, Mr. Sydenham. In the class for six blooms, not less than three varieties, first, Mr. Jester with Boiard, John Lowe, well marked but thin, and another. Single bloom, purple laced.—First, Mr. Brown with a fine bloom of Amy. Single bloom, red laced.—First, Mr. Brown with Empress of India and second with Bertram. Third, Mr. Thurstan with Eurydice. For six bunches of border Pinks Mr. Thomas Walkden was first with a nicely set up collection.

ROYAL CALEDONIAN, EDINBURGH.—JULY 12TH AND 13TH.

THE area of the Waverley Market was only thinly furnished with tables on the occasion of the Summer Show of the above Society. Roses ought to have been a feature, but the weather north this season was against them so entirely that not a large number were present, and the

majority were deficient in size. Mr. Hugh Dickson, Belfast, carried off most of the first prizes in the trade classes, but even in Ulster, judging by the blooms from this firm, the Roses have had a bad summer. Messrs. Croall & Son, Dundee, followed the Belfast grower, and they relied mainly on Teas, which, though small, were neat. This firm was also first in the Tea class. The gardener and amateur sections call for no particular comment.

Grapes were the noteworthy feature, and never have better or a larger number of bunches been set up at a summer meeting of this Society. The chief items were four bunches from Mr. Smith, Oxenford Castle, to which the first prize was given. This consisted of two well ripened clusters of Buckland Sweetwater and of Black Hamburg. Mr. Murray, Polmont, was second. The same exhibitor was first with two fine bunches of Madresfield Court, with two Black Hamburg, of which there were a large number of excellent examples, and with two Bowood Muscat, large but green. Mr. Boyd, Callender House, Falkirk, was the sole exhibitor of a collection of fruit, and in the classes for Pine Apples, Figs, Peaches, Nectarines, and Strawberries there was only slight competition. Mr. Allan, Gunton Park, had boxes of his seedling Strawberries, Lord Suffield and Gunton Park, and to these a "highly commended" ticket was attached. Of vegetables there were hardly any. Orchids were only sparsely represented, but comprised some good specimens of *Vanda suavis*, several *Odontoglossums*, and a few *Cattleyas*.

Some of the most interesting exhibits were to be found in the trade collections. That of Mr. D. W. Thomson was chiefly stove and greenhouse plants. Messrs. R. B. Laird & Sons had a table of the same kind. Messrs. Laird and Mather of Kelso struck out a new line with a handsome group of Malmaison Carnations in pots, supplemented with baskets of Germania blooms and boxes of Malmaisons. They also exhibited for the first time a new border Carnation named Lady Nina Balfour. The colour is a peculiar shade of soft rose, and the flower is very sweet. A first-class certificate was awarded. Messrs. Cocker & Sons, Aberdeen, staged, among other things, an excellent assortment of herbaceous and alpine flowers. These attracted much attention. Messrs. Dobbie of Rothesay had a representative collection of Violas, showing dozens of sorts. P. Barr, yellow; Queen of Scots, deep blue; Peacock, indescribable as to shade; Rothes, deep yellow; and Max Kolb, intense purple blue, are some examples of pleasing kinds.

MALDON.

THE eighteenth annual Exhibition of the Maldon Horticultural Society was held on Wednesday, the 13th inst., in the grounds of Maldon Hall, and proved in every way equal to its predecessors. The fruit and vegetable classes appear to be the chief feature at Maldon. Plants are not quite so numerous.

In class 1, a group of plants arranged for effect, Mr. E. Smee, gardener to O. Parker, Esq., Woodham Mortimer, secured first position with a very attractively arranged group, consisting of Palms, Ferns, white Phlox, *Asparagus plumosus*, and edged very tastefully with Ferns. Mr. Saltmarsh, gardener to Miss Hart, Maldon, was second with a heavier arrangement, containing a fine plant of *Crassula coccinea*, *Liliums*, *Begonias*, Palms, and Ferns. Mr. J. W. Samms, an amateur, was third. He is to be congratulated on his group; the *Begonias* employed were specially good. Zonal *Pelargoniums* were not quite so keenly contested as usual. First, Mr. W. Pyman; second, Mr. Ballard; third, Mr. Thorogood. *Coleuses* were fairly represented, Mr. R. Seabrooke leading with well grown plants; Messrs. Thorogood and Pyman following in the order named. Ivy-leaved *Pelargoniums* were not strongly represented, Messrs. Piggot, Pyman, and Saltmarsh being the prizewinners. With four Ferns, distinct, Mr. Smee was first, showing good *Asplenium bulbiferum*, *Pteris tremula* and *collina*; Miss Sears taking second position with a good *Davallia Mooreana*, *Adiantums*, &c. *Petunias* were well flowered, Messrs. Pyman and Saltmarsh taking the prizes in the order named. *Begonias* were particularly good. With single varieties Mr. J. W. Samms was clearly ahead; Mr. Ballard was second with smaller plants. Double varieties again found Mr. Samms leading.

With stove or greenhouse plants Mr. Saltmarsh was first with a good *Crassula*, *Fuchsia Frau Emma Topfer*, and *Hoya carnosa*. Mr. Samms was second with a fine plant of *Bougainvillea* Alfred Neuner, *Bougainvillea*, and *Begonia*. Plants for table decoration.—First, Mr. S. Moore, gardener to Bishop Claughton, Danbury Palace, with very good *Dracænas*, *Crotons*, and Palms, Messrs. Seabrooke and Samms taking the other prizes. *Gloxinias* were not very strong. Plants for beauty of foliage found Mr. Moore first with *Crotons*, *Acalypha*, and *Ficus*, Mr. Samms being second with good *Aralia Veitchi*, *Dracænas*, and *Grevillea*. Mr. Smee was third. For a single specimen plant Mr. Smee was first with a good *Dracæna*, Mr. Samms second with an excellent *Kentia*, Mr. Seabrooke third with a good *Araucaria*. Baskets of plants were quite a feature, Mr. Moore clearly leading with a tastefully arranged basket, Messrs. Saltmarsh and Seabrooke following in the order named. Class 18, for eighteen cut Roses, brought good competition. Mr. Smee was awarded first prize for good Mrs. J. Laing, *L'Idéale*, and Baroness Rothschild, Messrs. Pyman and Kerry being second and third respectively. In the twelve the competition was also well fought, Messrs. Moore, Saltmarsh, and Kerry proving successful. Zonal *Pelargoniums* made an excellent display. The Committee should make exhibitors label the varieties. First, Mr. Saltmarsh, with a very even stand; second, Mr. Smee, very little behind. In the class for hardy flowers Mr. Smee was first, showing good bunches of *Alstroemeria*, *Lychnis*, *Gaillardias*, and *Liliums*. Second, Miss Clear. Third, Mr. Thorogood. Bouquets had a good

entry. First, Mr. Smee, clearly ahead; Messrs. Moore and Pyman taking the other prizes.

Fruit classes were all well filled, the entries in the Currant, Strawberry, and Raspberry classes were very heavy indeed. Mr. Moore won with a collection of fruit, showing creditable dishes of Grapes, Melons, and Cherries. Mr. Smee was second with good Melons, Strawberries, and Cherries. Third, Mr. J. T. Rolfe with black Grapes. Mr. Moore was again first with well coloured bunches. Second, Mr. Seabrooke. Third, Mr. Rolfe. The Currants were the finest the Journal representative has ever seen, the quality was sustained throughout the classes. Tomatoes were excellent. In the vegetable classes Potatoes and Peas were the most notable features, especially the latter; the whole of the classes were well filled. Numerous classes were provided for cottagers, their vegetables and outdoor fruit being quite equal to that in the open classes. Some classes had twenty entries. The whole Show was a success and appeared to be well patronised.

PORTSMOUTH.—JULY 13TH, 14TH AND 15TH.

WITH the laudable object of assisting local charities an annual Exhibition is held in the Victoria Park in this famous southern port. The site is an excellent one, being convenient to exhibitors and public alike, and being situated in the heart of the town is easily accessible to the flower-loving public of Portsmouth, and as popular prices are here considered the most satisfactory it is not surprising that the attendance is large as a rule. The management is undertaken by a strong Committee, consisting mainly of members of the Town Council, with the Mayor, Alderman T. Scott Foster, as their Chairman, and Mr. B. Miller as Secretary. The arrangements, as is always the case here, were perfect, and as handsome prizes are offered, a capital Exhibition was the result.

Plants.—These being in the ascendancy both for numbers and general good quality they deserve a first notice. The principal class was that for twelve stove or greenhouse varieties, distinct, not less than six in bloom. Prizes of £12 10s., £7 10s., and £5 were offered, inducing four competitors to take part, making in all a grand display. Mr. Offer, gardener to J. Warren, Esq., Handcross Park, Crawley, was an easy first, so good were his flowering plants, and the general good quality displayed by the foliage specimens. *Ixora Williamsi*, 5 feet in diameter, *Statice Gilberti*, *Dipladenia amabilis*, *Erica Candolleana*, *Dracophyllum gracile*, with *Crotons Warreni* and *Prince of Wales* (very rich), and *princeps*, and *Cycas revoluta*, showed to the greatest advantage. Mr. T. Portnell, gardener to Sir A. Lamb, Bart., Beauport, Battle, Sussex, was a good second, *Kalosanthes coccinea*, *Bougainvillea glabra*, and *Erica Parmenteriana rosea* were seen to great advantage in this collection. Mr. F. Mould, nurseryman, Pewsey, Wilts, was third. £5 was offered as first prize for four specimens which brought five entries. Mr. Offer was again an easy winner; in his collection was a magnificently coloured example of *Croton Sunset*, and a freely flowered *Erica Shannoni glabra*. Mr. Wills, florist, Winchester Road, Shirley, was second, *Clerodendron Balfourianum* being especially noteworthy, Mr. Portnell coming next.

Specimen Palms produced a good effect arranged down the centre of a large tent, the restrictions being that they should not be less than 6 feet high, which is a point to be commended when the embellishment of the tents is considered. Mr. Offer was invincible, showing well such kinds as *Kentia Belmorcana*, *Latania borbonica*, and *Phoenix tenuis*; Mr. W. Peel, gardener to Miss Todd, Sidford Lodge, Shirley, second; Mr. Wills third. For one Palm Mr. Offer easily led with a grand specimen of *Kentia Canterburyana*, the picture of health and fully 15 feet high; Mr. Peel second. Exotic Ferns were few in number, but the quality was superb. For three, Mr. Offer easily gained the leading position with large and perfect specimens of *Nephrolepis davallioides furcans*, *Davallia Mooreana*, and *D. polyantha*; Mr. Peel followed closely. Mr. Offer won for one specimen Tree Fern, not less than 5 feet high, with *Cyathea dealbata*; Mr. Portnell followed with *Dicksonia squarrosa*. The single specimen flowering plants were only of moderate quality, except Mr. Offer's *Erica magnifica*, which had no difficulty in securing first place; Mr. Mould second. Specimen foliage plants showed an improvement. Mr. Offer led with *Croton undulatus*, fully 7 feet in diameter, and rich in colour; Mr. Peel, with *Croton Queen Victoria*, occupied the second place; Mr. Hunt, gardener to Sir W. Pink, Shrover Hall, Cosham, was third with *Acalypha musaica*, a plant not often seen in the exhibition tent in large size. *Coleus* made a large display. Mr. S. Dee, gardener to Mrs. Mills, Crescent Villa, Kingston, was the most successful, followed by Mr. Hatch, gardener to the Victoria Park Committee, Portsmouth. *Fuchsias* were small, but freely flowered, Mr. Hatch staging the best. Mr. Wills had the premier award for six *Begonias* with fairly good specimens; Mr. Hatch second. Zonal *Pelargoniums* in six varieties made a bright display, Mr. Burridge, North End, coming in first easily. Plants for dinner table decoration were good, Mr. Wills taking first honours for six; Mr. N. Molyneux, gardener to J. C. Garnier, Esq., Rooksbury Park, Wickham, second. *Gloxinias* appear to be well grown in the neighbourhood. For six Mr. Hatch was closely followed by Mr. Hunt for the chief prize, the plants being freely flowered and of good quality.

Handsome prizes were given for groups of plants arranged for effect in a semicircle. In the large class Mr. Wills was the most successful, having suitable material, and disposing of it without an approach to overcrowding, which is very often a fault in classes of this kind. Mr. Peel was a good second; this group lacked colour rather, though some suitably grown plants of *Francoa ramosa* showed to advantage. Mr. Hewit third. In a similar class, and a trifle smaller was confined to

Portsea Island only, there was spirited competition, Mr. Hatch leading with a neat evenly balanced group tastefully arranged. Mr. Burridge second. Mr. Kimber, gardener to the Asylum Committee, Portsmouth, was third.

Cut flowers were not staged in extra large numbers, yet there were sufficient to make a creditable display. In the classes for ball and bridal bouquets Messrs. Perkins & Sons, Coventry, were invincible, Mr. Burridge taking second place in each class. For twelve bunches of stove and greenhouse flowers, Mr. T. Wilkins, gardener to Lady Theodora Guest, Inwood House, Henstridge, Blandford, was placed first with a choice collection, Mr. Peel following. For the same number of hardy kinds Mr. Ladhams, florist, Shirley, was an easy first; so good were they that the most prominent varieties may with advantage be

Mr. P. Edwards, gardener to Lady Erle, The Grange, Liphook, and Mr. Inglefield were awarded equal third, the former staging Mrs. Pince in good condition, and the latter examples of Black Hamburgh perfect in every way but size. Mr. N. Molyneux was more successful in the class for three bunches of white Grapes, taking first honours with faultless bunches of Buckland Sweetwater. Messrs. Edwards and Inglefield followed in the order named, both depending upon Muscat of Alexandria. Mr. Inglefield had the best Peaches and Nectarines, staging Royal George and Lord Napier, both fine. Very fine early Bigarreau Cherries won for Mr. Hall, gardener to S. Montagu, Esq., M.P., South Stoneham House, Southampton, the premier award. The best green flesh Melon—Hero of Lockinge—was staged by Mr. Inglefield. The best scarlet flesh variety was Invincible from Mr. Dundas Graham, Chitley.



FIG. 9.—CŒLOGYNE SANDERIANA. (See page 51.)

given—*Delphinium nudicaule*, *Aquilegia Skinneri*, *Gaillardia Rossini*, *Catananche cœrulea alba*, *Monarda didyma*, *Eryngium amethystinum*, and *Delphinium hybridum* Ladleiss. Messrs. W. & J. F. Legg, Bury Road Nursery, Gosport, second; Mr. Wilkins third.

Fruit was of more than average quality, especially the Grapes, which were excellent. For a collection of six dishes, Pines excluded, there was but one entry, but so good in quality was it that the first prize was awarded to Mr. Inglefield, gardener to Sir J. Kelk, Bart., Tedworth, Marlborough, who had medium-sized well-finished bunches of Black Hamburgh and Muscat of Alexandria Grapes, Tedworth Favourite Melon, Royal George Peaches, Lord Napier Nectarine, and Brown Turkey Figs in superb condition. For three bunches of black Grapes six competed, the best coming from Mr. J. Tavener, gardener to Sir A. K. Macdonald, Woolmer, Liphook—Black Hamburgh large in bunch and berry. Mr. N. Molyneux was a very close second, his bunches being more even in size and symmetrical, but just a shade short in colour.

Vegetables were exhibited in large numbers and of good quality, Mr. Wilkins leading with a collection of nine sorts; Sutton's Seedling Potato, Perfection Tomato, Improvement Onion, Model Carrot, and Canadian Wonder Bean were the most noteworthy. Mr. Inglefield was second, and Mr. Hunt a close third. Cucumbers were fully represented, Mr. G. B. Woodward, Liphook, having the best brace. Mr. Hall, in a brisk competition, staged the finest Tomatoes—Perfection.

Messrs. Ewing, Havant Nurseries, had about ten dozen Rose and an interesting collection of ornamental shrubs in a cut state. Messrs. Keynes, Williams, & Co., Salisbury, sent twelve dozen Rose blooms containing most of the leading varieties in perfect condition; an exhibit which attracted much attention. Mr. Ladhams, florist, Shirley, had a large collection of hardy herbaceous cut flowers, comprising such as *Campanula platycodon grandiflora*, and *C. p. g. alba*, very showy members of an already extensive genus, *Delphinium nudicaule*, *Gaillardia Vivian Grey*, *Delphinium album*, and *Helenium magnificum*. This and the

previously named exhibits were not for competition, but added considerably to the attractiveness of the Show. Mr. J. Agate obtained a first-class certificate for *Chrysanthemum Lady Fitzwygram*, which is referred to elsewhere.

WALTHAM ABBEY.—JULY 16TH.

THE seventh annual Exhibition was held at Waltham Abbey on Saturday 16th inst. The Exhibition excelled all the previous efforts of the Executive Committee, and must now be regarded as one of the best shows held in West Essex. Plants were a grand feature and occupied the whole of a large tent.

Taking the classes in the open division as they appear in the schedule, the first provided for a group of plants arranged for effect; here Mr. Ayling, gardener to A. J. Hollington, Esq., Enfield, proved the victor, putting up a group of Orchids, backed by Palms, the groundwork being Maidenhair Ferns. The best Orchids were *Cattleyas Mendeli*, *Gaskelliana*, *Mossiae*, *gigas*, and *Sanderiana*, *Lælia elegans*, *Oncidium Marshallianum*, and *O. macranthum*. This group was exquisite. Mr. Nicholsson, gardener to Captain Melles, was a good second, using more foliage plants, *Crotons*, *Palms*, *Caladiums*, *Cypripediums*, *Oncidium*, and others. Groups of plants for effect, Orchids excluded, found Mr. Nicholsson to the fore with a very attractive arrangement of *Palms*, *Hydrangea paniculata*, *Crotons*, *Dracænas*, *Gloxinias*, and others. The arrangement was excellent. Second Mr. Clark, gardener to Sir T. F. Buxton, Warlies, with a good group, well arranged; third Mr. J. Watt, gardener to J. Reid, Esq., Enfield. With six miscellaneous plants, distinct, Mr. A. West, gardener to A. Lancaster, Esq., was first, having *Lantana borbonica*, *Pandanus Veitchii*, *Corypha australis*, and *Acalypha Macaëcana* as his best plants; second Mr. Ayling with a good *Allamanda*, *Pandanus*, &c.; equal third Messrs. Clark and Nicholsson. For six Ferns, distinct, Mr. Ayling was first, showing a grand plant of *Gleichenia Mendeli*; second Mr. Clark, who had a fine *Davallia Mooreana*; third Mr. A. West, whose best plant was *Phlebodium aureum*.

The class for stove or greenhouse plants brought out some grand specimens. Mr. Ayling was easily ahead, showing a plant of *Clerodendron Balfourianum*, a perfect mass of flower, and a huge *Lantana* of a variety called *Iris*; the specimen was covered with its orange scarlet flowers. Exhibitors should note this plant. Mr. J. Nicholsson had good plants of *Cycas revoluta* and *Stephanotis floribunda*. *Caladiums* found Mr. Nicholsson first with well-grown plants, Messrs. Hopkins and West taking the other prizes. Tuberous Begonias were a good feature. First, Mr. Ayling; second, Mr. Watt. *Achimenes* came out in the old style, in large pans, Messrs. Ayling and Nicholsson taking the prizes in the order named. Zonal *Pelargoniums* were not up to present requirements; Mr. Nicholsson was first, and Mr. Colville second. Specimen Orchids did not bring out anything very striking, Mr. Ayling showing a *Cattleya* and Mr. Nicholsson a *Cypripedium*. Specimen Ferns were very fine; Mr. A. ling was first with a very fine *Gleichenia*; second, Mr. Nicholsson with *Davallia Mooreana*; third, Mr. Colville, gardener to — Gibbs, Esq., Gilwell Park, with an enormous piece of *Adiantum formosum*. *Fuchsias* were well flowered, Messrs. Ayling and Nicholsson taking the prizes. *Coleuses* were not so good as usual, but Mr. Nicholsson's plants were well coloured. Messrs. West and Hopkins took the remaining prizes. Plants suitable for table decoration are always a strong feature here. Mr. Nicholsson secured the first prize with an even lot, followed by Messrs. Ayling and Clark.

Roses were well shown both as to quality and quantity. With six good entries in the twenty-fours the Judges found a little difficulty in fixing their awards. Mr. E. J. Robinson secured premier position, a notable feat for an amateur who has never staged a bloom before; Ulrich Brunner, Marie Baumann, and Jean Ducher were his best flowers. Messrs. Turk, gardener to P. Bosanquet, Esq., Berkhamstead, and Watt received the remaining prizes. In the twelves Mr. Robinson was easily ahead again; Mr. Langlands, gardener to M. Rose, Esq., Buckhurst Hill, being second, and Mr. Watt third. In the Tea class Mr. Langlands just got clear of Mr. Robinson, the former showing good *Perle des Jardins* and Jean Ducher; third, Mr. Turk. The Carnation classes were not so well filled, Messrs. Fear and Turk taking the chief prizes. Mr. Skinner was first for Pinks with massive flowers. Mr. Ayling was the victor in the class for cut flowers, stove or greenhouse, showing principally Orchids. In the hardy section Mr. Turk was a long way ahead, his staging being excellent; second, Mr. Clark; third, Mr. Hopkins.

Fruit was not abundant, but the general quality was good throughout. Vegetables were also good, and the baskets attracted a great deal of attention. A tent was set apart for ladies' decorations. For a single vase or epergne, Miss Vincent repeated her former successes by taking the first prize with a very elegant arrangement; second, Miss Ransley; third, Mrs. Gough. A group of vases found Miss Vincent again victorious, her arrangement being beautifully executed; second, Miss Litchfield with an arrangement of Iceland Poppies and Cornflowers; third, Miss M. Carr.

Numerous classes were provided for amateurs. Mr. Riggs (Roses), Mr. Fear (Carnations), Mr. Hitch (Pansies), and Mr. Gregory (hardy flowers), were the chief winners. Trade exhibits formed a very strong feature. Messrs. Paul & Son, Cheshunt, had some grand Roses and herbaceous flowers, Mr. Rumsey Roses and Palms, these two exhibits being much admired; Mr. J. B. Riding had *Violas* and *Pansies* and French *Gloxinias*, and Mr. T. Hamilton a group of Maidenhair Ferns. A large group of plants came from Mr. J. Riding, gardener to A. J. Edwards, Esq., Beech Hill.

The Exhibition was throughout extremely creditable, and reflects the greatest credit on Mr. J. Eve, the Hon. Sec., who carried out the whole arrangement to perfection.

ROSE SHOWS.

HEREFORD AND WEST OF ENGLAND.—JULY 12TH.

UNDER circumstances as different as possible from those which prevailed last year, when the National Rose Society held its provincial Exhibition at Hereford, and therefore in as unfavourable as could well be as far as one very important element is concerned—the weather—this old-established Society held its annual Exhibition, for a steady down-pour continued from the time the Show was opened until it closed. It is truly a disappointing thing when arrangements have been carefully made, when exhibitors have come from various parts, and when success or failure depends on one thing only, that that should be unfavourable. Last year the National was favoured with lovely weather, and as a consequence a great success was achieved. This year, without doubt, the Society will be sorely crippled. It will not be I am sure, as it has been with many a Rose society as well as horticultural society, that it will lead to a collapse; there are far too many lovers of the Rose in the country, and the Secretaries are too energetic to suffer such a catastrophe to follow one bad day.

Hereford has been long and favourably known for its Roses. The name of good John Cranston had made years ago the nurseries at King's Acre famous throughout the Rose world, while many of us can recollect the marvellous blooms which Mr. Jowitt used to bring up from the Old Weir to carry off trophies and cups and prizes from our principal shows. It was with the former that the idea of a National Rose Society first originated, and although it did not take shape until many years afterwards, yet it should never be forgotten that the idea was first broached at Hereford. Mr. Jowitt has long since ceased to be an exhibitor, but another amateur is keeping up the old fame of the county, although in a different line. Mr. Jowitt was essentially a grower of Hybrid Perpetuals, but the Rev. F. R. Burnside devotes himself to Teas and Noisettes, and at his prettily situated vicarage of Birch has been and is growing this beautiful class to perfection in soil admirably suited to them, and in general with favourable climatic conditions, although the last two seasons have been especially trying to him, for strange to say this part of England, which is generally moist and warm, has had two years of drought and cold. That the soil of Hereford is favourable to the Rose may be inferred from the wondrous profusion of the wild Rose which festoons all the hedges in the greatest profusion. I have in walking through the lanes seen *Rosa arvensis*, which I have never seen in Kent; it is a most beautiful Rose, reminding one of *Rosa macrantha*, having the same white petals with its yellow stamens.

But I have allowed myself to digress, and must now hark back to the Exhibition, which was certainly in many respects as far as the quality of the flowers was concerned a most admirable one. There was not a really bad box of Roses in the Show, while there were many of very great excellence both in the nurserymen's and amateurs' classes. In the former Mr. Frank Cant of Colchester, who has this year shown in such admirable form, swept the board; while in the amateur classes Mr. S. Budd of Bath took the leading place. Mr. Burnside and Mr. Fowler of Taunton were conspicuous for the position they took, and for the excellence of their blooms.

In the class for seventy-tvos Mr. Frank Cant of Colchester was easily first with a magnificent stand of blooms, some of them being of surpassing excellence, the bloom of Her Majesty being perhaps the finest ever exhibited, showing that when this most uncertain flower can be caught it is worthy of the name it bears. Louis Van Houtte was also a grand specimen. There were in the stand Marie Finger, A. K. Williams, Marguerite de St. Amand, Star of Waltham, Marie Van Houtte (beautiful), Souvenir de S. A. Prince, Dupuy Jamain, Ulrich Brunner, Hon. Edith Gifford, François Louvat, La France, Duke of Connaught, Madame Hoste, Horace Vernet, Comtesse de Nadaillae, Victor Hugo, Merveille de Lyon, Louis Van Houtte (fine), Mrs. Baker, Beauty of Waltham, Boieldieu, Lady Helen Stewart, Her Majesty, Sultan of Zanzibar, Marie Verdier, Charles Lefebvre, Madame Charles Crapelet, Madame Cusin, Mary Bennett, Jeannie Dickson, Ella Gordon, Rubens, Etienne Levet, Francisca Kruger, E. Y. Teas, Countess of Rosebery, Charles Darwin, Cleopatra, Duke of Edinburgh, Lady Mary Fitzwilliam, Xavier Olibo, Queen of Queens, John Bright, Jean Ducher, Gustave Piganeau, La Boule d'Or, Dr. Sewell, Mrs. John Laing, Duchesse de Morny, Madame Lambard, Fisher Holmes, Madame Hippolyte Jamain, Catherine Mermet, Alfred Colomb, Dr. Andry, Comtesse d'Oxford, Princess Beatrice, Ethel Brownlow, Heinrich Schultheis, Camille Bernardin, Pride of Reigate, Ernest Metz, Pride of Waltham, The Bride, Comtesse de Paris, Prince Arthur, Sir Rowland Hill (in good form), Pierre Notting, Marie Baumann, and Duke of Wellington. Curtis, Sanford & Co. were second, and Cranston & Co. third.

In the class for forty-eight single varieties Mr. Frank Cant was again first with Her Majesty, Gabriel Luizet, Merveille de Lyon, La France, Madame Lacharme, Souvenir d'Elise Vardon, Innocente Pirola, Marie Verdier, Comtesse de Nadaillae, Ulrich Brunner, The Bride, Marguerite de St. Amand, Caroline Kuster, Mrs. John Laing, Jeannie Dickson, Catherine Mermet, Jean Ducher, Silver Queen, Souvenir d'un Ami, Prince Camille de Rohan, Star of Waltham, Sir Rowland Hill, A. K. Williams, Suzanne Marie Rodocanachi, Pride of Reigate, Etienne Levet, Louis Van Houtte, Duke of Teck, Sultan of Zanzibar, Duchesse

de Morny, François Louvat, Marie Baumann, Duchess of Bedford, Dr. Hogg, Earl Dufferin, Duke of Wellington, Rosieriste Jacobs, Duke of Edinburgh, Reynolds Hole, Ernest Metz, Heinrich Schultheis, Ethel Brownlow, Charles Darwin, Prince Arthur, and Dupuy Jamain. Messrs. Cranston were second, and Mr. Geo. Prince third. In the class for twenty-four trebles Mr. Frank Cant was again first with Her Majesty, Mrs. John Laing, A. K. Williams, Prince Camille de Rohan, Merveille de Lyon, La France, Duke of Connaught, Madame Charles Crapelet, Charles Darwin, Pride of Waltham, Duchesse de Morny, Suzanne Marie Rodocanachi, Marie Baumann, Duchess of Bedford, Heinrich Schultheis, Baroness Rothschild, Ulrich Brunner, Comtesse d'Oxford, The Bride, Maréchal Niel, Alfred Colomb, Dupuy Jamain, Sir Rowland Hill, and Ethel Brownlow. Messrs. Cranston were second, and Mr. Geo. Prince third.

In the class for twenty-four, confined to Herefordshire nurserymen, Mr. Charles Whiting of Hereford was first with A. K. Williams, Marie Verdier, Merveille de Lyon, La France, Magna Charta, Baroness Rothschild, Charles Lefebvre, Horace Vernet, Marie Cointet, Sénateur Vaisse, Sir Rowland Hill, Mrs. John Laing, Madame Charles Wood, Comtesse d'Oxford, Caroline d'Arden. In the class for twelve trebles, Herefordshire nurserymen, Mr. Charles Whiting was again first.

In the amateurs' division Mr. S. P. Budd was first in the class for thirty-six with a wonderfully fine stand of excellent blooms, consisting of A. K. Williams, Her Majesty, Alfred Colomb, Merveille de Lyon, Duchess of Bedford, Marquise de Castellane, Star of Waltham, Mrs. George Paul, Charles Lefebvre, La France, Earl of Dufferin, Ulrich Brunner, Duchesse de Morny, Marie Rady, Mrs. John Laing, Ferdinand de Lesseps, Captain Christy, Louis Van Houtte, Queen of Queens, Marie Baumann, Suzanne Marie Rodocanachi, Harrison Weir, Countess of Oxford, Xavier Olibo, Prince Arthur, Baroness Rothschild, Gustave Piganeau, Catherine Mermet, Eclair, Etienne Levet, Horace Vernet, Reynolds Hole, Marie Cointet, Lord Beaconsfield, Princess Beatrice. Mr. Walter Drew of Ledbury was second, and Mr. E. B. Lindsell of Hitchin third. In the class for twenty-four varieties Mr. W. H. Fowler of Taunton was first with a box consisting entirely of Teas, comprising Princess of Wales, Niphetos, Madame Hoste, Francisca Kruger, The Bride, Catherine Mermet, Innocente Pirola, Ernest Metz, Etoile de Lyon, Madame Cusin, Caroline Kuster, Souvenir d'Elise, Comtesse de Nadaillac, Sunset, Madame de Watteville, Marie Van Houtte, Souvenir de Paul Neyron, Rubens, Perle de Lyon, Madame Hippolyte Jamain, Madame Margottin, Souvenir d'un Ami, Souvenir de S. A. Prince, and Madame Lambard. Miss Bulmer, Broadland, Hereford, was second; and Mr. James Rankin, M.P., third.

In the class for twelve varieties, distinct, Mr. Conway Jones, of Gloucester, was first with Earl Dufferin, Maréchal Niel, Sénateur Vaisse, Mrs. John Laing, The Bride, Prince Camille de Rohan, Francisca Kruger, Louis Van Houtte, Duchess of Bedford, Madame Hoste, Charles Lefebvre, and Souvenir de S. A. Prince. The second prize was awarded to the Rev. C. H. Bulmer, of Credenhill; and Mr. J. Davis of Bodenham was third. In the class for twelve trebles Mr. S. P. Budd of Bath was first with Alfred Colomb, Her Majesty, Marie Suzanne Rodocanachi, Merveille de Lyon, A. K. Williams, Duchesse de Morny, Gustave Piganeau, Etienne Levet, Duchess of Bedford, Louis Van Houtte, Catherine Mermet, and Charles Lefebvre. Mr. E. B. Lindsell was second, and Mr. Walter Drew third. In class 10, eighteen single trusses for Herefordshire amateurs, Mr. Walter Drew was first with M. S. Rodocanachi, Charles Darwin, Duchesse de Vallombrosa, Dr. Andry, Merveille de Lyon, Marie Verdier, Comtesse d'Oxford, Marchioness of Dufferin, Horace Vernet, Her Majesty, Louis Van Houtte, Lady Mary Fitzwilliam, Innocente Pirola, Earl of Dufferin, The Bride, Duke of Edinburgh, Jeannie Dickson, and Comte Raimbaud. Mr. J. H. Arkwright, of Hampton Court, Leominster, was second, and Mr. W. J. Eeroyd of Credenhill Court was third. In the class for twelve varieties Mr. John Ough, Hereford, was first with Sénateur Vaisse, Lady Mary Fitzwilliam, Marquise de Castellane, Général Jacqueminot, a remarkably fine bloom; Pride of Waltham, Countess of Oxford, Captain Christy, Heinrich Schultheis, Exposition de Brie, Merveille de Lyon, Horace Vernet, and Earl of Dufferin. The second prize was awarded to the Rev. Sir George Cornwall, Bart., of Moecas Court, and Mr. James Rankin, M.P., was third. In the class for six varieties, Mr. George Lewis was a creditable first with Ulrich Brunner, Baroness Rothschild, Marie Baumann, Merveille de Lyon, Sénateur Vaisse, and Captain Christy. Mr. J. Davis of Bodenham was second. In the class for six trebles Mr. Walter Drew was first with Horace Vernet, Suzanne Marie Rodocanachi, Louis Van Houtte, Earl of Dufferin, The Bride, and Dupuy Jamain. Mr. T. B. Giles was second, and Mr. James Rankin was third.

In the Tea and Noisette section there was a good and extensive display of fine flowers, and a keen competition amongst the amateurs with whom in the western counties this beautiful tribe is in great favour. In the nurserymen's class for eighteen Mr. Geo. Prince of Oxford was first with Ernest Metz, Innocente Pirola, Comtesse de Nadaillac, The Bride, Madame Cusin, Souvenir de S. A. Prince, Etoile de Lyon, Madame de Watteville, Souvenir d'Elise, Souvenir d'un Ami, Princess of Wales, Marie Van Houtte, Madame Bernard, Madame Hoste, Niphetos, and Jean Ducher. A very beautiful stand of flowers. Mr. Frank Cant was second.

In the class for twelve Teas Mr. C. Whiting of Hereford was first with Niphetos, Marie Van Houtte, Devonensis, The Bride, Souvenir de S. A. Prince, Madame Lambard, Anna Ollivier, Duchess of Edinburgh, Souvenir de Paul Neyron, and Madame Bernard, very good.

In the class for twelve Teas (trebles) Mr. Frank Cant was first with Souvenir d'Elise, Madame Cusin, Innocente Pirola, Catherine Mermet, Madame de Watteville, Ethel Brownlow, Ernest Metz, The Bride, Maréchal Niel, Edith Gifford, Marie Van Houtte, and Souvenir de S. A. Prince. Mr. Geo. Prince was second.

In the amateurs' class in this division the competition was strong, and very fine stands were shown. In the class for eighteen Teas the Rev. F. R. Burnside was first with a stand of clean and well developed flowers, consisting of Catherine Mermet, Madame Cusin, The Bride, Anna Ollivier, Innocente Pirola, Souvenir d'un Ami, Niphetos, Princess of Wales, Comtesse de Nadaillac, Ethel Brownlow, Jean Ducher, Cleopatra, Madame Bravy, Francisca Kruger, Rubens, Marie Van Houtte, Hon. Edith Gifford, and Madame Hoste. Mr. W. H. Fowler of Taunton was second, and Mr. S. P. Budd was third. Mr. A. Hill Gray was highly commended. In the class for twelve Teas Mr. Walter Drew was first with The Bride, Catherine Mermet, Hon. Edith Gifford, Madame Lambard, Niphetos, Comtesse de Nadaillac, Ethel Brownlow, Souvenir de Paul Neyron, Francisca Kruger, Madame Cusin, Souvenir d'un Ami, and Souvenir d'Elise. Mr. P. D. Giles was second, and Mr. James Rankin, M.P., third. In the class for six Teas, Mr. Conway Jones of Gloucester was first with Madame Hoste, The Bride, Maréchal Niel, Francisca Kruger, Innocente Pirola, and Ethel Brownlow. The second was awarded to Mr. T. A. Washbourne, Gloucester, and the third to Mrs. Cheale Cuthbert of Birch. For twelve Teas, trebles, Mr. A. Hill Gray of Bath was first with Princess of Wales, Souvenir d'Elise, Marie Van Houtte, Comtesse de Nadaillac, Hon. Edith Gifford, Maréchal Niel, Innocente Pirola, Francisca Kruger, Madame Cusin, The Bride, Catherine Mermet, and Alba Rosea. The Rev. F. R. Burnside was second, and Mr. S. P. Budd third. For six of one sort, Tea, the Rev. F. R. Burnside was first with Innocente Pirola. Mr. A. Hill Gray was second with Maréchal Niel, and Mr. W. H. Fowler was third with Francisca Kruger.

In the class for twelve light Roses one variety, the first prize was awarded to Messrs. Cranston & Co., for a very fine box of Her Majesty; the second to Mr. Budd for the same flower, and the third to Mr. George Prince for Merveille de Lyon. For twelve dark Roses, one variety, the first prize was awarded to Mr. Frank Cant for one of the finest stands of Marie Baumann I ever saw, clearly disproving what many have said, that this Rose is deteriorating. Messrs. Cranston & Co. came second with an excellent box of A. K. Williams, and Mr. Geo. Prince third with Marie Baumann.

For twelve yellow Roses the first was awarded to Mr. A. Hill Gray with Maréchal Niel, and the second to Mr. George Prince with Francisca Kruger. For twelve blooms of any Tea the first prize was awarded to Mr. George Prince with Souvenir de S. A. Prince, the second to Mr. A. Hill Gray with Maréchal Niel, and the third to Rev. F. R. Burnside with Innocente Pirola. For a box of six blooms of Comtesse de Nadaillac and The Bride alternately arranged, a very pretty arrangement, the first prize was awarded to Mr. Frank Cant, the second to Mr. A. Hill Gray, and the third to Mr. George Prince. For twelve bunches of garden Roses the first prize was awarded to Messrs. Cranston and Co, and the second to Mr. John Ough. The National Rose Society's silver medals were awarded for the best H.P. shown by an amateur to Mr. Walter Drew for Comte de Raimbaud, and for the best Tea to a remarkably fine bloom of Ethel Brownlow, shown by Mr. S. P. Budd, and for the best Rose shown by an Herefordshire amateur to Mr. Walter Drew for Louis Van Houtte.

There was a very nice selection of cut blooms of herbaceous plants, the first for twenty-four being awarded to Mr. Devonport of Foxley, the second to the Rev. Sir George Cornwall, and the third to Mr. Watkins. In the class for twelve Mr. James Rankin was first, the Rev. A. C. Lee second, and Mr. Heygate third. There were also some prettily arranged tables, in which, however, Roses were not used.

From this report it will be seen that a very excellent schedule had been framed, and the Show was well worthy of the repute of an Exhibition that has often been recorded by the facile pen of "A Herefordshire Incumbent." All the arrangements were well carried out, and with the one exception of the weather nothing could have been more successful.—D., Deal.

TUNBRIDGE WELLS.—JULY 13TH.

As might be expected there are many gentlemen's seats in the beautiful surroundings of this salubrious town, and good gardening in its various departments is conducted by capable men. Extensive and beautiful shows have been held in past years, but during the last three seasons the weather proved so unfavourable that a good attendance of visitors was out of the question, and the Society sustained loss in consequence. The Committee, like prudent men, protected themselves as much as possible this year by limiting the schedule, and it was well they did so, for showers were frequent, and would naturally deter many persons from entering the grounds. A very large hall was helpful, however, in which Roses and cut flowers were staged, and it is hoped the Show was as well patronised as it deserved, for if it was not so large as some of those of previous years it was excellent throughout. As Roses and cut flowers were the chief feature we place the report in this column, and append a brief reference to the other exhibits.

In the open class for forty-eight varieties, the Judges, Mr. Biron and his colleague, had no light task in finding the best three stands out of the eight evenly good collections staged, but they were equal to the task. The veteran, Mr. B. R. Cant, won the first position with not very large, but neat, well formed fresh blooms: Alfred Colomb, Alfred K. Williams, Annic Laxton, Augustine Guainoisseau, Camille Bernardin, Charles

Lefebvre, Countess of Oxford, Dr. Andry, Duchess of Albany, Duke of Connaught, Duke of Edinburgh, Duke of Wellington, Dupuy Jamain, Earl of Dufferin, Edouard Hervé, E. Y. Teas, François Michelin, Gustave Piganeau, Heinrich Schultheis, Her Majesty, Horace Vernet, Jeannie Dickson, Lady Mary Fitzwilliam, La France, Lord Macaulay, Marchioness of Dufferin, Margaret Dickson, Marie Baumann, Marie Cointet, Maurice Bernardin, Merveille de Lyon, Mrs. Baker, Mrs. John Laing, Prince Arthur, Prince Camille de Rohan, Prosper Laugier, Queen of Queens, Reynolds Hole, Silver Queen, Star of Waltham, Ulrich Brunner, Xavier Olibo, Innocente Pirola, Madame de Watteville, Niphotos, Souvenir de S. A. Prince, Souvenir d'un Ami, and Maréchal Niel. Mr. Mount, Canterbury, was second, and Mr. G. Rumsey, Wrotham, third. In the open class for twelve Teas and Noisettes Mr. B. R. Cant again secured the premier position with good clean examples of Madame Cusin, Ernest Metz, The Bride, Souvenir de G. Drevet, Niphotos, Comtesse de Nadaillac, Souvenir de S. A. Prince, Maréchal Niel, Francisca Krüger, Marie Van Houtte, Souvenir d'un Ami, and Princess of Wales. Second, Mr. Piper, Uckfield. Third, Mr. Mount. Eight competitors.

In the amateurs' and gardeners' class seven stands of twenty-four blooms were staged, the prizes being awarded to T. B. Haywood, Esq. (Mr. C. J. Salter, gardener); Percy G. C. Burnand, Esq., Reigate; and M. Hodgson, Esq. (gardener, Mr. H. Shoesmith), Croydon, in the order named, all staging admirably. Mr. Haywood's varieties were La France, Duke of Teck, Alfred Colomb, Pride of Waltham, Comtesse d'Oxford, Duchess of Bedford, Her Majesty, François Michelin, Madame Eugénie Verdier, Louis Van Houtte, Etienne Levet, Merveille de Lyon, Earl of Pembroke, Captain Christy, Earl of Dufferin, Dupuy Jamain, Sir Rowland Hill, Mrs. Laxton, Mrs. J. Laing, E. Y. Teas, Xavier Olibo, Gustave Piganeau, and A. K. Williams. There was good competition in the smaller classes, but chiefly of local interest.

Herbaceous flowers and table decorations contributed to the beauty of the great Hall. In the class for twenty-four varieties of the former Mr. John Charlton, nurseryman, easily secured the first position with splendid bunches of choice varieties that would have taken some beating at any show in the kingdom. Mr. L. Dupond, gardener to C. B. Powell, Esq., Old Hall, Southborough, was a good second; Mr. H. Ware, gardener to Rev. J. Tillard, Penshurst, third. In the class for twelve varieties only one competitor was within the terms of the schedule, and was accordingly awarded the first prize. Prizes were adjudged for two other collections on their merits, but one contained a bunch of three varieties of Gloxinias, making fourteen varieties in his stand instead of twelve, and another exceeded the stipulated number in a similar way with other flowers. Mr. Portwall, gardener to Sir C. Lamb, Bart., Beaufort, Battle, had the first prize for a good stand of eighteen varieties. Mr. Charlton also staged an extensive miscellaneous collection, and the display was an imposing one. Table decorations are always good at Tunbridge Wells; Miss Harmer, St. Leonards; Mr. Searing, and Mrs. Hutton, Sevenoaks, were the most successful exhibitors.

Fruit was staged in the Hall. For a collection of twelve dishes Mr. C. Earl, gardener to Sir Julian Goldsmid, Bart., Tonbridge, was first with neat Pines (good), Black Hamburg Grapes, Cherries, Peaches, Nectarines, and Strawberries as his best dishes. Second, Mr. G. Fennell, gardener to W. M. Cazalet, Esq., Tonbridge, a Pine, Peaches, Melons, and Strawberries being of high merit. There was excellent competition in the Grape classes, the first prize for three bunches of black varieties going to Mr. J. C. Moorhouse, gardener to J. W. Temple, Esq., Leyswood, Groombridge, for Gros Maroc, very fine indeed. Mr. W. Avis, gardener to the Hon. P. B. Petre, Faircrough, Ladhurst, was second with excellent Madresfield Court, but not quite ripe; and Mr. Morris, gardener to C. J. Ebdon, Esq., Baldstow Place, St. Leonards, third with well-finished Black Hamburgs. With three fine bunches of Buckland Sweetwater Mr. James Wilkins, gardener to F. V. Williams, Esq., Shirley Hall, secured the first prize in the class for white Grapes. Mr. J. Friend, gardener to The Hon. P. C. Glyn, Rooksnest, Godstone, second with splendid bunches of Foster's Seedling. Mr. W. Harvey, gardener to W. Tennant, Esq., Whyteleaf House, Warlingham, third with Muscats. Mr. Moorhouse was first in the class for a dish of Peaches, with unusually fine fruits of Dymond. Mr. G. Bunyard, Maidstone, exhibited various kinds of fruit trees in pots, bearing excellent crops; a most creditable exhibit.

Stove and greenhouse plants were well exhibited in the marquees by Messrs. Portwall, Pope, and Howe; Caladiums by Mr. Dupond, Achimenes by Messrs. Wilkin and Ware, and Begonias by Messrs. Hollamby and Snow (gardener to C. de Murietta, Esq., Wadhurst). Mr. L. Dupond had by far the best group of plants, boldly irregular, free, and picturesque, for which the silver medal was awarded.

Mr. H. Scannell, gardener to C. J. Reilly, Esq., exhibited splendid fruits of Sutton's Matchless Cucumbers (very highly commended), and the best Melon was Sutton's Improved Green Flesh, exhibited by Mr. Searing. Tomatoes were wonderfully fine, Messrs. Johnstone, Hollamby, Harvey, and Pennell securing the prizes. Vegetables were excellent throughout the classes.

BEDFORD.—JULY 13TH.

THE ninth annual Exhibition was held under somewhat adverse circumstances, the morning opening drizzly and dull, followed after noon by downpouring rain, which continued throughout the remainder of the day. The open classes for Roses were well filled, and the blooms, owing, perhaps, to the previous dull weather, were remarkably fine and in

bright colour. No less than eight collections were staged in the open class for forty-eight distinct blooms, Mr. Frank Cant, Colchester, leading with beautiful and even flowers as follows:—Back row: Pride of Waltham (very fine); Comte de Raimbaud, Duchesse de Morny, an excellent Rose; Reynolds Hole, Horace Vernet, Harrison Weir, Denmark, Chas. Lefebvre, Mdme. Cusin, Marie Baumann, Her Majesty, Duke of Edinburgh, La France, Marquis of Dufferin, Mdle. E. Verdier, and Prince Camille de Rohan. Centre row: Mdle. V. Verdier, The Bride, Comtesse d'Oxford, Dr. Andry, Camille Bernardin and Mdme. S. Rodocanachi, both fine; Ulrich Brunner, Merveille de Lyon, Alfred Colomb, Pride of Reigate, a striking bloom; Glory of Waltham, Mdme. de Watteville, Marie Rady, Comtesse de Nadaillac, E. Y. Teas, and Ethel Brownlow. Front row: Dr. Sewell, Prince Arthur, May Bennett, Pierre Notting, Catherine Mermet, Duke of Connaught, Edith Gifford, Duke of Wellington, Mdme. Hoste, Annie Wood, Souvenir d'Elise, Duke of Teck, Mrs. John Laing, François Louvat, Ernest Metz, and Duchess of Bedford. Mr. B. R. Cant, Colchester, ran a close second, having some remarkable blooms, but his stand not quite so regular, Gustave Piganeau, Pride of Waltham, Camille Bernardin, Paul Neyron, Mrs. J. Laing, Mrs. Baker, Her Majesty, Maréchal Niel, and Mdme. S. Rodocanachi being notable flowers. Messrs. Paul & Son, Cheshunt, were placed third with a regular stand of smaller blooms; and Messrs. D. Prior & Son, Colchester, fourth. Messrs. Burrell, Mattock, Burch, and Frettingham also staged excellent flowers in this class, and if a medal had been offered it would have been well merited by a beautifully tinted bloom of Marie Van Houtte in the stand of Messrs. Burch.

For the open class of eighteen Teas and Noisettes—a well contested class—Mr. J. Mattock of Headington, Oxford, was first with delightfully clean and fresh blooms of Princess of Wales, Souvenir de S. A. Prince, Comtesse de Nadaillac, Souvenir d'un Ami, Madame Cusin, Innocente Pirola, Francisca Krüger, Souvenir d'Elise, The Bride, Ethel Brownlow, Edith Gifford, Catherine Mermet, Ernest Metz, Cornelia Koch, Comtesse Riza du Parc, Madame Welche, Madame Lambard, and Marie Van Houtte. Mr. Frank Cant was second, his best flowers being Souvenir de Thérèse Levet, Madame Cusin, Jean Ducher, and Jules Finger, Mr. B. R. Cant coming in third. All the stands, however, were excellent.

In the class for twenty-four distinct Roses, open to all amateurs, Mr. E. B. Lindsell, Bearton, Hitchin, was awarded first for a splendid box of blooms in his usual good form, staged as follows:—Back row: Charles Lefebvre, La France, Horace Vernet, Earl Dufferin, Gustave Piganeau, Her Majesty, Alfred Colomb, and Mrs. J. Laing. Centre row: Innocente Pirola, A. K. Williams, Comtesse de Nadaillac, Dupuy Jamain, Baroness Rothschild, Madame V. Verdier, La France, Duke of Edinburgh. Front row: Duchess of Bedford, Reynolds Hole, Marie Baumann, Prince Arthur, Marie Verdier, Charles Darwin, Duke of Wellington, and Merveille de Lyon. The Rev. W. H. Jackson, Stagsden Vicarage, Bedford, approached the champion very closely, and was placed second, having beautiful flowers of Her Majesty, Star of Waltham, A. K. Williams, Suzanne Marie Rodocanachi, and Innocente Pirola. Mr. W. Boyes, Derby, was a meritorious third, showing Madame S. Rodocanachi, Etienne Levet, Souvenir de S. A. Prince, Cleopatra, and Reynolds Hole in fine form.

In the amateurs' open class for twelve Teas and Noisettes Mr. Jackson exhibited a very fresh and beautiful lot, leading Mr. Lindsell, the champion, here, who, however, had an excellent stand, and came second, Mr. Boyes being third. In the open class for twelve cut blooms, all amateurs, Miss E. D. B. Denton, Stevenage, was first; Mr. G. Moules, Hitchin, second; and the Rev. F. Gall, Hitchin, third; and in the local amateur classes the Rev. W. H. Jackson was first for twenty-four blooms, including in his stand a truly majestic flower of Her Majesty, eclipsing all others in the Show for size. For twelve blooms Mr. Kingston, Bedford, led; and for twelve Teas the Rev. W. H. Jackson.

A grand display of hardy herbaceous and bulbous flowers formed a prominent part of the Exhibition, and for thirty-six bunches in the open class Messrs. Burrell & Co., Cambridge, took honours with large and tastefully arranged bunches of most of the showy and several new and striking varieties—*Salvia sclarea*, *Achillea Ptarmica grandiflora alba*, *Helenium hybridum*, *Iris M. Blouet*, &c. Messrs. Laxton Bros., Bedford, were a good second; Messrs. Paul & Son being third. The exhibition of plants was not extensive, but fine specimens came from Mrs. Wingfield, Ampthill House (gardener, Mr. W. J. Empson), to whom was awarded the first prize for a group, and for foliage plants, Mr. G. Robinson, gardener to Fredk. Howard, Esq., Bedford, leading also in some of the classes.

NATIONAL ROSE SOCIETY—PROVINCIAL SHOW AT CHESTER.—JULY 16TH.

VIGOUR, freedom, and compactness are a trio of laudatory adjectives so often applied to plants as to have become familiar in gardening circles. All of them could have been used in reference to the rain which fell in and around the ancient city of Chester on Saturday, July 16th. It was no ordinary, commonplace downfall, coming in fits and starts, as though with no settled object in view, but a rain of which the concentrated intensity seemed uncomfortably business-like, and filled one from the first with an uneasy conviction that it had come to stay. It did. It was there in the early morning; it was there when after breakfast a visit was paid to the great nurseries of Messrs. Dickson & Co., Limited; it was there when the Show was opened; and it was there when a late afternoon train conveyed a party of damp rosarians from Chester to the south. Many who read these lines are or have been connected in some way or other with flower shows, and they will not need to be told the

full significance of the conditions indicated, especially when it is added that the display was under canvas. A warning of what was to come was received the night before when perambulating the city walls, under the guidance of a human relic, who gave free play to a copious imagination when precise knowledge failed him. Objects were pointed out that could only be seen clearly "when it was going to rain," and the boldness with which they stood out gave dismal forebodings of the morrow. An endeavour was made to extract comfort from his general mendacity, but, such is the irony of fate, in this particular at least he had spoken truly. Strangely suggestive, too, was the title of the venue. The Show was announced to be held in the Folly Field, Flooker's brook. A folly it proved indeed, and whoever Mr. Flooker may be or have been, his brook appeared to have spread itself all over the scene of action.

Misfortunes, it is known, never come singly, and so it proved in this case. By some accident, oversight, or what not, the arrangement of the boxes turned out to be all wrong, and precious time was cut to waste in re-arranging the Show, consequently the judging did not commence till after twelve o'clock. Had the day been sunny and balmy this would have mattered less, but under the circumstances the delay was rather trying to the temper. Perhaps the latter accounts for the vehement endeavours of one gentleman to turn all unauthorised persons, ladies included, out into a soaking field in the pouring rain; but he was humanely overruled, and the Judges and reporters endured the discomfort. After all it was no great matter. Lovers of Roses do not allow their interest and enthusiasm to be easily damped when there is a good display of flowers before them. If they were such tender creatures as to be afraid of rain and occasional inconvenience such grand flowers would never be grown. And it is gratifying to be able to say that the display was good. We might safely go further, and say that it was a splendid one. This was the crowning consolation of what was in most respects a gloomy day. Not only were the flowers fine, they were abundantly so. It was not a case of a few exceptional blooms; there was a general high level of excellence all through. That some stands were distinctly better than others was to be expected, and, from the Judges' point of view, it was desirable; but it was not a case of one being very good and the others very bad; on the contrary, the seconds and thirds were good in almost every class. Take, for example, the Jubilee classes. In the nurserymen's the first, second, and third were all high-class stands, and in the unplaced division the quality was of uniform excellence. Mr. B. R. Cant's victory, of which recent developments had led anticipations to be formed, was not gained without a struggle, nevertheless it was decisive. In the amateurs' there were two very fine stands, those of Mr. Budd and the Rev. J. H. Pemberton, while Mr. Lindsell's was excellent too. In our report of the Crystal Palace and Reigate Shows we commented specially on the marked improvement of the Bath amateur, and his success was therefore not a surprise. Mr. Pemberton's defeat speaks volumes for the quality of Mr. Budd's blooms, for the Havering parson has proved conclusively in the past what a dangerous opponent he is late in the season. Mr. Lindsell is well known to be an "early man," and his overthrow at late shows is not unexpected, but it must in justice to him be stated that there was no stand in the section equal to his Earl's Court forty-eight. Like Mr. Frank Cant, he can well afford to rest on his early laurels.

In the largest trade class, that for seventy-two blooms, "B. R." again showed splendidly, and as he achieved a third victory with thirty-six trebles, it is evident that he is just now at his strongest. Messrs. Harkness have been hampered by the peculiar season, but had several good stands, and a special note should be made of Mr. H. Merryweather's improvement. The Southwell grower secured several first prizes, as well as the silver medal for the best H.P. The want of some clearly defined standard by which to judge was clearly shown in one or two of the Tea classes, that for twelve blooms (class 21) being perhaps the most notable case. In size and weight Messrs. Prior & Son were undoubtedly first, and the award went to them, but the blooms were sadly tarnished, some of the lower petals being very bad, whereas the second prize flowers were as clean and fresh as if they had been cut under glass, though not quite so heavy as the others. It is probable that a higher scale of points would improve matters in many cases, but in the present one the Judges were possibly unduly hurried owing to the lateness of the commencement.

THE JUBILEE CLASSES.

The Jubilee classes were instituted in 1887, and two challenge trophies value 50 guineas were provided—one for nurserymen, who were to exhibit thirty-six blooms, the other for amateurs, who were to exhibit twenty-four, the trophies being held for one year by the winners. These correspond with the challenge trophies at the Metropolitan Exhibition, and far more interest is naturally invested in them than in the largest of the ordinary classes. In the trade section Messrs. Harkness & Son scored a magnificent sequence of four consecutive victories until last season, when their unbeaten record was broken by Mr. Frank Cant. This year the latter carried all before him earlier in the season, and it was hardly to be expected that he would maintain his full strength until the close of the season. Mr. B. R. Cant, on the other hand, has been steadily creeping up, while the quality of Messrs. Harkness & Son's blooms was practically an unknown quantity owing to their enforced absence from many of the leading shows. They might come out strongly with a kind of meteoric burst, or they might be weak. Events showed that both the previous winners were doomed to defeat, as when the four boxes were uncovered Mr. B. R. Cant was seen to be clearly ahead, and the award of the Judges subsequently supported

general impressions. The veteran had a grand collection of flowers, certainly one of the best in the Show, or even of the season. His varieties were Her Majesty, Countess of Rosebery, Comte de Raimbaud, Chas. Lefebvre, Madame Cusin (very fine), Etienne Levet, Marie Baumann, Victor Hugo, Eugénie Verdier, Comte de Paris, Lady Mary Fitzwilliam, Madame Victor Verdier, Paul Neyron (superb), Dupuy Jamain, Lady Sheffield, Ulrich Brunner, La France, Duke of Edinburgh, Mrs. John Laing, Alfred Colomb (splendid), Duchesse de Morny, Madame Isaac Percire, François Michelin (somewhat weak, an unfortunate blemish in an otherwise splendid stand), Prince Camille de Rohan, Suzanne Marie Rodocanachi, Gustave Piganeau, Jeannie Dickson, Earl of Dufferin (grand), Ernest Metz, Madame Crapelet, Marie Verdier, A. K. Williams, Pride of Waltham, Countess of Oxford, Star of Waltham, and Prince Arthur (magnificent). This stand was full of fine flowers, and exceptionally rich in colour. There was a lustrous glow about the blooms that betokened perfect condition. It is doubtful if a finer Prince Arthur has ever been shown than the last bloom in this stand. Mr. Frank Cant also had an admirable stand, but must have been several points behind. His flowers were very fine in colour and condition, but Baroness Rothschild and one or two others were rather weak. Perhaps the best flowers were Général Jacqueminot, Dupuy Jamain, Suzanne Marie Rodocanachi, Mrs. John Laing, and Gustave Piganeau. He was unmistakably second. Messrs. Harkness & Sons were third with a very good stand, somewhat lacking in weight. The flowers were very fresh and bright, Gustave Piganeau being an admirable example.

The amateurs' contest for the trophy has been almost as remarkable for the success of Mr. Pemberton as that of the nurserymen for the victories of Messrs. Harkness. It is true that in 1887 and 1888 that sterling grower, Mr. T. B. Hall of Rock Ferry, whom all would like to see in battle array once more, was the winner, but in the three succeeding seasons Mr. Pemberton was at the top of the tree. It seems almost a pity in one respect to spoil so fine a record as he was building up, but honour must be given where honour is due, and on the present occasion he was fairly, though by no means easily, defeated by Mr. Budd. If anyone deserved to taste the sweets of victory in the trophy class it was the latter. He is not only an excellent but a persevering grower. This season he has improved himself many points, and though hardly a match for Mr. Lindsell in the form the latter displayed at the Palace and Earl's Court, he has maintained the quality of his flowers admirably throughout the season. In the *Journal* report of the Metropolitan Exhibition it was suggested that with perseverance Mr. Budd might yet see his name in the honours list, but it was hardly thought that it would be so soon. On this occasion he had very heavy and richly coloured flowers, the varieties being Gustave Piganeau, Dr. Andry, Earl of Dufferin, Heinrich Schultheis, Louis Van Houtte, Madame Van Houtte (splendid), Marie Rady, Merveille de Lyon, Star of Waltham, Mrs. Paul, Chas. Lefebvre, Duke of Albany, Mrs. J. Laing, Ella Gordon, Alfred Colomb (very fine), Her Majesty, Duchess of Bedford, Harrison Weir, Marie Baumann, Marie Van Houtte, A. K. Williams, François Michelin, Etienne Levet, and Duke of Wellington. Mr. Pemberton's stand was a very fine one, but rather uneven. Her Majesty, Grandeur of Cheshunt, and Xavier Olibo were three of the best flowers, this trio being very fine. He was distinctly second. Mr. Lindsell was many points behind his form early in the season, but he has a record of which he may well be proud, and although only third on the present occasion, the magnificent flowers he staged a fortnight previously, will make the season a memorable one.

NURSERYMEN'S DIVISION.

To come to the ordinary classes in the schedule, good even quality throughout may be chronicled, although it was evident that the trade growers had concentrated their best blooms on the trophy competition. The principal class was for seventy-two blooms, and Mr. B. R. Cant, evidently in a winning vein, was again successful. His stand was composed of very bright fresh blooms, well coloured, but not very large. The best examples were undoubtedly Marie Van Houtte, Lady Helen Stewart, Victor Hugo, Ernest Metz, Mrs. John Laing, Marie Baumann (very fine), Duke of Edinburgh, Her Majesty, Gustave Piganeau, and Mrs. Paul. Mr. Frank Cant was second, very little in the rear, his blooms being large and rich, but one or two were rather past their best. Star of Waltham, Beauty of Waltham, Pride of Reigate, Souvenir de S. A. Prince, and Dr. Andry were conspicuous for their good quality. Messrs. Harkness & Son were third. This class was not so good as the seventy-two at the Palace, but with the Jubilee competition in view the growers could not be expected to show their best blooms in the big class.

In class 2, thirty-six varieties, distinct, three trusses of each, were asked for, and once more Mr. B. R. Cant was first. He is invariably strong with trebles, but his present stand, though a very good one, was not the best he has arranged this year. The great majority of the flowers were large and in good condition, but one or two were a little soiled. The varieties were Marie Baumann, Gustave Piganeau (very fine), La France, Duke of Edinburgh, A. K. Williams, Heinrich Schultheis, Baroness Rothschild, Général Jacqueminot, Dupuy Jamain, Madame Crapelet, Marie Finger, Prince Arthur, Alfred Colomb, Niphetos, Her Majesty, Prince Camille de Rohan, Earl of Dufferin, Marquise de Castellane, Duchesse de Vallombrosa, Charles Lefebvre (very good), Fisher Holmes, Pride of Waltham, Ernest Metz, Xavier Olibo, Ulrich Brunner, Lady Sheffield, Jeannie Dickson, Victor Hugo, Maurice Bernardin, Marie Verdier, Lady Helen Stewart, Sénateur Vaisse, Beauty of Waltham, Madame Cusin, Mrs. John Laing, and Madame Victor

Verdier. Mr. Frank Cant was a close second, his flowers being very fresh, and of good size; in fact, so far as general appearance went he was closer to his namesake in this than in either of the other classes, but pointing might have dispelled the impression. The well-known Irish growers, Messrs. Dickson of Newtownards, were third, so that if unable to score a win, they did not cross the water entirely in vain. Some splendid blooms were observable in the other two open classes for nurserymen. For example, in that for thirty-six distinct, single trusses, Mr. H. Merryweather won with a very beautiful stand, having weight, freshness, and fine colour. His Gloire de Margottin and Gustave Piganeau were wonderfully rich, other fine flowers being Dr. Andry (a splendid bloom), Ulrich Brunner, and Mrs. J. Laing. This was one of the best stands the Southwell grower has exhibited, and betokened considerable improvement. Messrs. D. Prior & Son were second with fresh but rather small flowers, and Messrs. Jefferies & Son third. In class 4, eighteen distinct, three trusses of each, Mr. Merryweather was again first, having beautiful blooms, all in perfect condition; indeed, the freshness and cleanliness of his flowers were noteworthy all through the Show. If he can get a little more weight he will some day be in the front rank. Gustave Piganeau, Mrs. J. Laing, Horace Vernet, Lady Mary Fitzwilliam, and Viscountess Folkestone were splendid. Messrs. Prior & Son were second with heavy richly coloured flowers, also forming a strong stand, and Messrs. G. & W. H. Bureh were third.

AMATEURS' DIVISION.

Comment has already been made on the Jubilee trophy class, but that by no means exhausted the number of high class blooms in the amateurs' section. Here, as at the Crystal Palace, the new arrangement of classifying exhibitors according to the number of plants grown was tried, apparently with equal success, as there was abundance of competition. In 5 and 6, as in the Jubilee class, there was no restriction as to the number of plants grown, and the former ended in the success of another rising exhibitor, Mr. W. Drew of Ledbury. His defeat of Messrs. Pemberton and Lindsell, although they were not at their full strength, was a very creditable performance. Thirty-six distinct, single trusses, were asked for; Mr. Drew's stand was of medium excellence, the flowers being very even in merit, but one or two were rather faded. The Rev. J. H. Pemberton was second, and Mr. E. B. Lindsell third. The latter scored his first victory with twelve distinct, three trusses of each, Mrs. J. Laing, Ulrich Brunner, Alfred Colomb, and A. K. Williams being the best flowers in his excellent stand. Mr. Drew was second with a heavy lot of flowers, and Mr. Budd third.

Classes 7 and 8 were restricted to growers of less than 2000 plants. The first was for eighteen, distinct, single trusses, and Mr. Boyes, Bank House, Derby, was first, his flowers being rather small, but very neat and fresh. Mr. A. Whitton, Aiskew, Bedale, was second; and Mr. Jas. Parker, Old Headington, Oxford, third. Both had neat fresh flowers. In the second, twelve distinct, single trusses, were asked for, and with these the Rev. L. Garnett won, having heavy but somewhat coarse flowers; second, E. Mawley, Esq.; third, the Rev. F. Page Roberts. Class 9, twelve single trusses, was only open to growers of less than 1000 plants. The winner was T. Tatham, Esq., Wilmslow, who had a very fine stand, which did him the utmost credit. Second, Col. Standish Hore, St. Asaph. Third, Mr. John Ough, Hereford. Mr. Tatham displayed great promise, and may be expected to further improve. The next class, in which six blooms was the number specified, was restricted to growers of less than 500 plants. The first prize went to Mr. Richard Park, who had large richly coloured blooms. Second, Dr. Bell, New Brighton. Third, F. R. Fleming, Esq., Rowton, Chester.

Four classes were reserved for local growers, and these brought many good flowers. For twenty-four distinct, single trusses, the Rev. L. Garnett, Christleton Rectory, Chester, was first with a large, but not too fresh stand, in which Le Havre was very fine indeed. Mr. C. Burgess was second, and Mr. Stubbs, Nantwich, third. Colonel Standish Hore won with twelve single trusses. He had a medium stand, the flowers being fresh and well coloured, but somewhat lacking size. Second, Mr. J. Taylor, Hoole Hall Gardens, Chester; third, H. Roberts, Esq., Hope Mold. With six distinct, single trusses, T. R. Bulley, Esq., Liscard, was first; Mr. A. Baker, Crewe, second; and Mr. Fleming third. In the remaining local class, which was for six Teas or Noisettes, distinct, Colonel Standish Hore was first with a delightful stand, only marred by the soiled lower petals of Jean Ducher; second, Mr. Garnett; third, Mr. Stubbs. Several extra classes were provided for amateurs. In the first, which was for six new Roses, Mr. Pemberton was successful, staging T. W. Girdlestone, Jeannie Dickson, Mrs. Wilson, Gustave Piganeau, Augustine Guinoisseau, and Madame Caroline Testout. He also won with nine trusses of any H.P., being represented by Marie Baumann, fresh and splendidly coloured. Second, Mr. C. Burgess, Plumley, with Mrs. John Laing. Third, Mr. Budd with Marie Baumann. Mr. J. G. Churton was first with Merveille de Lyon in the class for six of any H.P.; Mr. Richard Park second with Mrs. John Laing; and Mr. Mallender, Hodssock Priory Gardens, Workop, third with Thos. Mills. With garden Roses the latter was first, and Mr. Pemberton second. These were good stands, but that of Mr. Pemberton was too crowded.

TEA AND NOISETTE DIVISION.

Teas and Noisettes were beautifully shown throughout. There were some of the best stands of them seen this season, the flowers being large, solid, and for the most part clean, although one or two otherwise splendid stands were marred by a few soiled blooms. The only open class was that in which twelve trebles were asked for. In this Mr. B. R. Cant

followed up his previous successes, but he could not have had a wide margin of points in his favour, for although his flowers were of good size they were not in the freshest condition. The varieties were Ernest Metz, The Bride, Ethel Brownlow, Niphotos, Francisca Kruger, Catherine Mermet, Souvenir d'un Ami, Souvenir de S. A. Prince, Comtesse de Nadaillac, Madame Cusin, Madame de Watteville, and Marie Van Houtte. Mr. Merryweather was second with smaller but much cleaner flowers, and Mr. Frank Cant third. Mr. G. Prince won with eighteen distinct, having a very fine stand, in which Souvenir de S. A. Prince, Madame Cusin, Catherine Mermet, and Innocente Pirola were very good. Mr. B. R. Cant was second, and Mr. Frank Cant third. With twelve distinct Messrs. D. Prior & Son were first with a good stand, in which Marie Van Houtte, Ethel Brownlow and The Bride were very fine, but all the blooms were not quite clean. Second, Mr. Merryweather with very fresh, clean, delicate flowers. Third, Mr. J. Mattock. Some judges would have placed Mr. Merryweather first.

The amateurs also showed Teas well. With twelve single trusses the Rev. F. R. Burnside was first, having Souvenir d'un Ami, Cleopatra, Innocente Pirola, Comtesse de Nadaillac, Marie Van Houtte, Catherine Mermet, Anna Ollivier, Souvenir d'Elise Vardon, Francisca Kruger, Princess of Wales, Madame Lambard, and The Bride in beautiful condition. Second, Mr. Budd, also with a splendid box; third, Mr. Hill Gray, with delightful flowers. The latter won with six trebles, staging Maréchal Niel, Souvenir d'Elise, Innocente Pirola, Madame Lambard, Comtesse de Nadaillac, and Marie Van Houtte, all charmingly fresh. Second, Mr. Burnside; third, Mr. Budd, both with admirable boxes. In class 24, nine distinct, single trusses, the competition was restricted to growers of less than 500 plants. Mr. J. Parker was first with large fresh flowers, Mr. Mawley second with beautiful blooms, and Mr. W. Boyes third. For six single trusses shown by growers of less than 200 plants, Colonel Standish Hore was first with a very good stand; Mr. R. G. Burgess, Knutsford, second; and Mr. Wood, gardener to J. Brown, Esq., Manchester, third. Mr. Hill Gray was first for nine single trusses of any Tea or Noisette, with Maréchal Niel, very good; second, Mr. Burnside, with Marie Van Houtte. For six of any Tea or Noisette, Mr. Boyes was first with Cleopatra; Mr. Parker second with Maréchal Niel; and Mr. Garnett third with Innocente Pirola.

OPEN DIVISION.

This was chiefly, though not wholly, devoted to individual varieties. For instance, the first class was for twelve new Roses, distinct, Mr. Merryweather was first with Gustave Piganeau, Marchioness of Dufferin, Salamander, Jeannie Dickson, Due de Braganee, Margaret Dickson, Bruce Findlay, Danmark, Marie Mogat, Mrs. Watson, T. W. Girdlestone, and Mrs. Paul. Second, Messrs. Dickson, Newtownards; third, Messrs. Paul & Son. For twelve of any yellow, first, A. Hill Gray, Esq., with Maréchal Niel, rather small, but delightfully fresh; second, Mr. Frank Cant, with Comtesse de Nadaillac; third, Mr. Mattock, with Marie Van Houtte. For twelve single trusses of any light pink variety, first, Messrs. Dickson & Co., Newtownards, with a grand box of La France, fine both in size, form, and colour; second, Messrs. Harkness & Son with a beautiful box of Mrs. John Laing; third, Mr. Frank Cant, with the same variety, a little tarnished. There were nine other boxes. For twelve of any crimson, first, Mr. Merryweather, with an excellent stand of Gustave Piganeau, which he grows splendidly; second, Mr. W. Frettingham with Marie Baumann. Third, The English Fruit and Rose Co., with the same variety. Mr. B. R. Cant had the best box of a dark velvety crimson variety, staging Prince Arthur; Messrs. Prior & Son being second with Earl of Dufferin; and Mr. Prince third with the same variety. For twelve single trusses, six of any H.P. and six of any Tea, first, Messrs. Harkness & Son with Gustave Piganeau and Jean Ducher, both very fine; second, Messrs. Prior & Son with A. K. Williams and Catherine Mermet; third, Mr. Merryweather, with Suzanne Marie Rodocanachi and The Queen. Mr. E. Mount won with Polyantha Roses, Mr. Mallender being second. These were both moderate stands.

The class for three trusses of any new seedling Rose or distinct sport brought a variety named Mrs. W. J. Grant, from Messrs. Dickson and Co., Newtownards, which is, we believe, a cross between Lady Mary Fitzwilliam and La France. Be that as it may, it is a beautiful variety, and will probably take a leading position. The form is good, the petals broad and well folded, the colour rich rosy cerise. A gold medal was awarded. Two new Roses were also exhibited by Messrs. Harkness & Son. One, named Mrs. Harkness, an 1887 sport from Heinrich Schultheis, is extremely promising. It is soft rosy pink, somewhat in the way of Mrs. John Laing, a large, shapely, and well-built flower, bright and clear in colour. The other, named Merrie England, is also an 1887 sport from Heinrich Schultheis. It is very distinct, being a mixture of deep rose and white, almost exactly like a rose-flaked Carnation. It is a substantial, well-built, handsome bloom, and is likely to turn out a good garden Rose, being vigorous and very free. Mr. G. Swales, Beverley, had a new seedling, named Mrs. Arthur Wilson. It is a flower of great beauty, although the examples were small, having broad evenly folded petals. The colour is lustrous satiny pink—a beautiful shade. The Committee wished to see all these again.

The premier blooms were as follows:—Best nurserymen's H.P., a superb example of Gustave Piganeau from Mr. Merryweather. Best nurserymen's Tea, a large, heavy, well-built bloom of Souvenir d'Elise Vardon from Messrs. Paul & Son. Best amateurs' H.P., a fine Comte de Raimbaud, shown by Mr. Pemberton. Best amateurs' Tea, a beautiful Souvenir de S. A. Prince, from Mr. Mawley.

Mr. F. Garnett, Mr. T. R. Bulley, and the Rev. L. Garnett won

with herbaceous flowers, Mr. Page Roberts, Mr. Townsend Ince, and Mr. D. Large also showing well. In an annexe to the main tent was a large and beautiful display from Messrs. Dicksons, Limited, Chester. In the centre were some fine plants of *Dicksonia antarctica*, *Musa Cavendishii*, *Asparagus*, *Crotons*, *Scaevola elegans*, *Latania borbonica*, and other foliage plants. Below these were some banks of herbaceous flowers, such as *Gaillardias*, *Gladiolus bizantinus*, *Anne Boleyn* and other Pinks, *Liliums*, herbaceous *Phloxes*, *Pentstemons*, *Tritonia longiflora*, *Oenothera Youngi*, *Alstroemerias*, *Agrostemma Walkeri*, *Campanula Van Houttei*, *C. Burghalti*, *Anthemis tinctoria*, *A. t. pallida*, and many boxes of *Roses*, forming altogether a most effective group.

BIRMINGHAM.—JULY 19TH AND 20TH.

In the picturesque grounds of the Moseley College, a salubrious suburb of the metropolis of the Midlands, an excellent Rose Show was held on the dates named. Unfortunately rain fell in torrents on the opening day, and storms in various parts of the country resulted in many growers who had entered being unable to send blooms, the drawbacks amounting to 1600 *Roses*; still, the Show was extensive, and the stands were generally of high quality.

In the class for seventy-two varieties the "two Cants" had an extremely close contest, and it was only by a very close scrutiny that the relative merits of the collections could be determined. Mr. Frank Cant won the premier position by two or three points, though the second prize blooms of Mr. B. R. Cant were a trifle heavier.

In the class for forty-eight blooms seven collections were staged, the winning stand being that of Messrs. Perkins & Son, Coventry. Mr. B. R. Cant was second; Dicksons, Limited, Chester, third, and Messrs. Cooling & Sons, Bath, fourth, running each other very closely in order of merit. In the class for thirty-six trebles Mr. B. R. Cant stood alone and well won the first prize which was awarded. Six collections of thirty-six single blooms were placed in competition, Messrs. Perkins and Sons gaining the first position with superb blooms. Dicksons, Limited, were a close second, Messrs. Jefferies & Sons, Cirencester, third, Messrs. Prior & Sons, Colchester, fourth, and Mr. Frank Cant fifth in this fine class.

Four excellent stands of twenty-four Tea or Noisette blooms were staged, the prizes going in the following order:—Mr. Frank Cant first, Messrs. Jefferies & Son second, Messrs. D. Prior & Son third, and Mr. B. R. Cant fourth. For twelve blooms the prizes went to Mr. Frank Cant and Messrs. Prior & Son in the order named.

Five fine stands, three of Mrs. J. Laing and two of Merveille de Lyon, were in the class for twelve blooms of any light Rose. Messrs. Prior & Son were placed first with Mrs. J. Laing, Messrs. Perkins and Son second with Merveille de Lyon, and Messrs. Cooling & Son third with Mrs. J. Laing. In the corresponding dark class Messrs. Perkins and Son were first with A. K. Williams, Dickson's, Limited, second with Marie Baumann, and Mr. B. R. Cant a close third with Alfred Colomb. The blooms in both these classes were very good.

There was good competition in the local classes, also in groups of plants and bouquets, while several local exhibits contributed effectively to the general display.

The Mayoress and Mrs. Joseph Chamberlain judged the bouquets, &c., and Mr. Chamberlain spent a considerable time in the tent, scrutinising the *Roses* very minutely, and taking down names. The Show was ably conducted by Mr. William Dean.

WOLVERHAMPTON.

WE recorded the names of the prizewinners in the open classes last week, and now publish the names of the varieties with which Mr. B. R. Cant secured premier honours in the seventy-two class—one of the finest collections of *Roses* ever exhibited:—Alfred Colomb, Alfred K. Williams, Annie Laxton, Baroness Rothschild, Beauty of Waltham, Col. Felix Breton, Captain Christy, Charles Darwin, Charles Lefebvre, Countess of Oxford, Countess of Rosebery, Crown Prince, Duchess of Albany, Duchess of Bedford, Duchesse de Morny, Duke of Connaught, Duke of Edinburgh, Duke of Teck, Dupuy Jamain, Earl of Dufferin, Eclair, Ella Gordon, Etienne Levet, Mons. E. Y. Teas, François Louvat, Général Jacqueminot, Germaine Caillot, Gustave Piganeau, Heinrich Schultheis, Her Majesty, Jean Souper, Jeannie Dickson, John Hopper, John Stuart Mill, Lady Helen Stewart, Lady Mary Fitzwilliam, Lady Sheffield, La France, Louis Van Houtte, Madame Clemence Joigneaux, Madame Ducher, Madame Isaac Pereire, Madame Victor Verdier, Marchioness of Dufferin, Margaret Dickson, Marie Baumann, Marie Cointet, Madame Bois, Marie Finger, Marie Rady, Marie Verdier, Merveille de Lyon, Mrs. Harry Turner, Mrs. John Laing, Paul Neyron, Pierre Notting, Pride of Waltham, Prince Arthur, Queen of Queens, Sénateur Vaisse, Sir Rowland Hill, Star of Waltham, Suzanne Marie Rodocanachi, Ulrich Brunner, Victor Hugo, Xavier Olbo, Madame Cusin, Marie Van Houtte, Niphotos, Souvenir de S. A. Prince, Souvenir d'un Ami, The Bride. The other portions of the Show are dealt with on another page.

TRADE CATALOGUES RECEIVED.

Messrs. E. D. Shuttleworth & Co., Ltd., Albert Nurseries, Peckham Rye, London, S.E.—*Foliage Plants and Coniferae*.
Messrs. E. H. Krelage & Son, Haarlem, Holland.—*Darwin Tulips*.



HARDY FRUIT GARDEN.

Pears.—Complete the summer pruning of Pears by removing the points of those shoots left at the previous prunings to strengthen and induce more vigorous growth on the lower portions of trained trees. From four to six leaves may be left in most cases, counting those that are large, deep green, perfectly clean, and uninjured, those at the base of the shoots being mostly imperfect, and not at all adapted for elaborating the sap and organising fruit buds, which is the object sought at the present time by the cultivator. The upper part of trees treated in a similar manner during previous weeks will now illustrate the wisdom of shortening the summer growths. The buds at the axils of each leaf will be assuming a plumper form, indicating a tendency to form fruit buds. Probably a few of the upper buds on some shoots will be breaking into wood growths, or a few, perhaps too early stopped or too closely pruned, may be developing several wood buds, which will ultimately shade and crowd the neighbouring spurs. If such shoots can be dispensed with remove them entirely. Those developing one, or at the most two, wood buds finally extending into growths may be allowed to grow until they have developed one good leaf, at which they should be pinched. Fruiting spurs where they are at all too thick will derive much benefit from having the weakest removed, also injured and imperfect leaves, as well as any so numerous that they unduly shade the fruit buds. This examination of the trees may reveal the haunts of a small greenish white caterpillar, which forms a web on the under side of the leaves, rolling and doubling a pair together to protect its chrysalis. If present these must be crushed; removing and burning the leaves attacked if badly perforated.

Where heavy crops of fruit are swelling some thinning will be necessary to relieve the trees and induce the production of finer examples. Liquid manure will also greatly assist the trees if heavily burdened with fruit, but it is wasteful to give it to very dry soil. Rather soak the ground first with clear water, then apply liquid manure, the virtues of which will be retained in the moistened ground. If a very hot period follows it is imperative to conserve the moisture by a mulching of strawy manure, or failing that a light sprinkling of dry soil over the roots will answer as well.

Plums.—Continue nailing or tying leading growths of wall trees their full length. Remove superfluous or misplaced growths entirely; those better placed which cannot be tied in without crowding the tree shorten to a few good leaves to encourage the formation of spurs, which will eventually fruit as well as extension shoots or those laid in place of older useless wood. Allow the swelling fruits as much light as possible by fastening aside any impeding growths. Other details of culture consist in keeping the foliage clean by removing insects with frequent syringings of water, clipping off injured leaves and disbudding at an early stage any gross shoots springing from the main stems. A final thinning of the fruit if necessary should take place, and assistance given to the swelling of the crop left by adequate moisture at the roots, giving liquid manure or not as the growth is strong or weak, the crop heavy or light.

Cherries.—Dessert Cherries treat in a similar manner, taking especial care to rid the growing points of leading shoots from clustering colonies of black aphides, which are so troublesome to the Cherry. Morello Cherries are not so liable to insect attacks, the growth of the current year's shoots being more rapid. Fastening in the reserved shoots and thinning out the surplus growths closely to the points from which they spring constitute the main work at present needing attention.

Peaches, Nectarines, and Apricots.—The same strict attention to fastening the leading shoots, exposing the fruit to the influence of light and sun, and assisting the roots of the trees with waterings and mulchings applies to these fruits. Strong young shoots that have produced laterals may have the latter reduced to the first joint for forming fruiting spurs rather than train them in for filling up space which can be occupied by earlier formed wood.

Outdoor Figs.—Young shoots for bearing fruit next season must be trained thinly so that each is exposed to the influences best tending to produce short-jointed well-ripened wood. All other shoots ought to be rubbed off as soon as it is found they will not be wanted, together with any gross sappy growths that issue from the old wood. The fruiting branches may be pinched at the fourth leaf which has fully developed on the terminal growths above the fruit. To allow these to extend serves to rob the fruit too much, but the few leaves left by the pinching assists the attraction of the sap to the fruit, inducing steady swelling and maturation.

Bush and Standard Fruit Trees.—At this period of the year trees are apt to become overcrowded with much useless wood, or rather wood which will be useless, and render neighbouring shoots useless, too, by overcrowding each other. The centres of standard Apples and Pears are often thickets of gross spray which ought to be promptly

subdued as soon as seen, and not allowed to obstruct light and air passing through the trees. The chief pruning standard trees require is to keep the wood thinly disposed over the whole tree, inducing every shoot to grow outwards, and none whatever to travel into the centre, where they destroy their own fruit-bearing powers. It is quite rational to remove obstructing branches of this kind now and not wait until winter time. Dead wood can also be better seen now. No shortening of young shoots is necessary for standard trees. The thin disposal of their branches induces fruitfulness. Currants and Gooseberries should have the young growth freely thinned, gross shoots being early removed, as their vigour occasions them to be robbers. The removal of superfluous wood accelerates the swelling and ripening, as well as improves the quality of the fruit.

Outdoor Vines.—These trained against walls or trellises will require frequent attention. If bearing shoots have been stopped at two joints beyond the bunches of fruit the lateral shoots resulting must be pinched at the first leaf, or if space allows one or two joints further. Train new shoots at distances sufficiently wide to allow of the main leaves upon them having plenty of room to develop, and stop them when the extent of the space is reached. Keep the fruit close to the wall where it will be partly shaded from the sun by the large and ample foliage in front.

Apples.—Apples soon show the result of lack of vigour in the trees by arrested growth, which often causes the young leaves to become curled, losing their green hue and taking on a brightly coloured appearance. This is due to the attacks of red spider, which extract the juices from the tissues. They are only prevalent on the shoots of trees deficient in proper support and probably moisture in the soil. Trees exhibiting this undesirable appearance will be benefited by receiving special attention in the way of increased nutriment accorded to the roots. Clear water and liquid manure of any kind will do much to restore vigour, which if not visibly apparent this season will be next. The removal and burning of bad leaves will be beneficial also, as blighted leaves are of no use whatever. In spite, however, of drawbacks of this nature many varieties of Apples continue to bear fruit annually if the blossom escapes injury from frost. Lord Suffield is one of the surest bearers under varying circumstances of culture, and will carry a fair crop of fruit when receiving but little attention from year to year. Such treatment ought not to be continued, as under neglect the trees assume very unshapely habits from the twisting and blowing about of the shoots by the wind. Standard trees in exposed positions suffer the most. Regulate the growths now, support branches heavily laden with fruit, thin out the smallest fruits, and stop the breastwood if not already done on walls and espaliers, or other forms where the trees are restricted.

FRUIT FORCING.

Peaches and Nectarines.—*Early Forced Trees.*—Such varieties as Hale's Early, Stirling Castle, and Royal George Peaches, Lord Napier and Elruge Nectarines that were started in December, or Alexander and Early Louise, with Advance Nectarine in January to ripen their fruit without hard forcing, which is never advisable, in May or early June, will for some time have been cleared of fruit, and the wood on which the fruit was borne removed, if not extension shoots, also any superfluous growths. This will have been of the greatest benefit to the trees, provided the foliage has been kept clean and the roots duly supplied with food. Efforts in this direction must not be relaxed; keep the plants clear of insects if necessary by the use of an insecticide and supplied with water, or in the case of weakly trees liquid manure at the roots. A light mulching tends to keep the roots near the surface and slight growth in the laterals to make them active, and these prevent the premature ripening of the foliage. The buds will be sufficiently plumped and the wood sufficiently matured to allow the roof lights to be removed. This is a commendable practice, not the least of its advantages being the thorough moistening of the border by the autumn rains.

Trees Starting in February.—These have the fruit ripe, and some still ripening, the fruit being finer and later than usual, and it shows the advantages of being allowed plenty of time. As the fruit is cleared off the trees cut out the wood that has borne it, and thin the growths where so close that the foliage cannot have full exposure to light and air. Cleanse the foliage of dust or insects by means of the syringe or engine, and if necessary use an insecticide. Keep the borders thoroughly moist, top-dress with an approved fertiliser, and wash it in. This enables the trees to plump the buds and benefits the foliage. Stop all laterals to one joint, or allow a little lateral extension if the trees have the buds in an advanced state, preventing premature ripening of the foliage by continuing the root action, with at the same time growth on which to expend it without danger of forcing the principal buds into growth. When the buds are well formed and the trees are not over-luxuriant remove the roof lights, but where lifting or root-pruning is contemplated the lights should not be removed, as the operation is better performed with soil only moderately moist, and that can be regulated by keeping the lights on.

Trees Started in March.—The stoning is now satisfactorily completed and the fruit taking its last swelling. The leaves should be drawn aside and the fruit raised by means of laths across the trellis, so that the apex will be to the light. Water the border both inside and outside with liquid manure, and keep it mulched with about an inch thickness of short lumpy manure, or top-dress with superphosphate two parts and one part sulphate of potash, mixed, at the rate of 4 ozs. per

square yard, and lightly point in. Avoid a close soapy mulch, as that does harm by excluding air. Ventilate early, leaving a "crack" on constantly, syringe by 7 A.M., and ventilate freely through the day. When the sun loses power in the afternoon begin to reduce the ventilation, and raise the temperature to 85° or 90° about 4 P.M., with a good syringing and damping of surfaces, but it must be done with judgment, for when the water hangs for any length of time on the fruit during the last stages of swelling it is liable to damage the skin, causing it to crack, or it encourages mould and may give the fruit a musty flavour. Always syringe so as to have the foliage and fruit fairly dry before nightfall, and when the day is likely to be dull omit the morning syringing. When the fruit commences to ripen cease syringing the trees, but afford air moisture by damping available surfaces, especially the border, whenever it becomes dry, ventilating rather freely, always leaving enough air on to ensure a circulation. The trees must not lack water at the roots or the fruit may ripen prematurely.

Late Houses.—The fruit is so backward that there will not be any need to retard it by having recourse to abundant night ventilation. If wanted to accelerate the ripening ventilate freely in the early part of the day and up to 1 P.M., then keep the heat obtained by reducing the ventilation so as to secure 80° to 85°, and at 4 P.M. close, syringing well, and no harm will come if the temperature rise to 90°, ventilating a little at 6 P.M., so as to let the pent-up moisture escape and the temperature gradually cool down. Attend to tying down the shoots as they advance, allow no more than are required for next year's bearing and the furnishing of the trees, and give all sufficient space for the full exposure of the foliage to light and air. Stop the laterals to one leaf and retain growth to attract the sap to the fruit. Any gross shoots which push laterals from the leaf buds should be cut back to where the buds are intact, or if likely to interfere with the equalisation of the sap cut them out altogether. These gross growths promote gumming, bad setting, and casting of the fruit in stoning. Expose the fruit to the light by drawing the leaves aside, and raise it from the under side of the trellis, as light and air are essential to its colour and quality.

Unheated Houses.—The trees have the fruit stoning, and, where there are early varieties, in the last stages of swelling. These, such as Alexander, Waterloo, Early Louise, and Early Rivers, will need to have water kept from the fruit; but the midseason and late varieties require syringing about 7 A.M., the house having a little ventilation constantly, increasing it with the advancing temperature, contriving to have it full at 75°, closing for the day at that heat. If it is wanted to accelerate the fruit keep through the day at 80° to 85°, but always with ventilation, and close sufficiently early to maintain that temperature, but not to raise it above 90°. Syringe again about 5 P.M. on fine days, but damp only when dull. Timely thinning increases the size of the fruits retained, therefore complete it as soon as the stoning is completed. Supply water or liquid manure to the borders as required.

Figs.—*Trees in Pots for Early Forcing.*—Keep down insects by syringing once a day, in hot weather twice; afford liquid manure at the roots, and pinch to induce a neat habit. Stopping must be regulated by the vigour of the plants and the varieties. Vigorous growers require more stopping than those of moderate growth, but the stopping should not be practised much after this time on trees which are intended for very early forcing.

Second Crops on Planted-out Trees.—Trees started about the new year have the second crop in an advanced state. Thin it, if not already done, reserving that at the base of the shoots, which, as a rule, finishes better than that at the points, which must not be allowed to bear, as it is on this part that the first crop in the next year is produced. Nor must the second crop tax the energies of the trees too severely if they are expected to afford a full crop of early fruit next season. Attend regularly to tying the shoots, training them thinly, and allow plenty of space in the ties for the shoots to swell. Stop side growths at the fifth leaf, but do not retain these spur growths to the extent of crowding. Afford water or liquid manure in accordance with the extent of the rooting area. Trees in narrow borders may need it every day, those of larger area corresponding thereto. Overwatering can hardly occur in hot weather, provided the border is formed of sound materials, the roots active, and the drainage thorough. Feed with liquid manure or mulch with short manure, keeping it moist, but not always saturated. Syringe twice a day forcibly to dislodge red spider, but with proper feeding and attention there will be little need for insecticides. Dislodge scale with a brush and a soapy solution. Admit a little air constantly, increase it early, close early with plenty of moisture, and the fruit will swell to a good size. When it is ripening a circulation of air constantly will insure perfection.

THE BEE-KEEPER.

APIARIAN NOTES.

STILL FEEDING BEES.

BEE-KEEPERS in this locality are still feeding most of the stocks to keep them alive. Bees lie strewn about everywhere in a dead or dying state, and hives become less instead of increasing. It is

with difficulty that manipulations can be carried on, and not a May nor June-bred queen is laying yet. This is the worst bee season up to date ever experienced. However, we hope to have a week or two of summer and honey weather before the close of the season.

PUNICS.

I am sorry all my plans to fully test the Punics have as yet been frustrated. Up till May the Punics seemed to take the lead; after that the pure ones appeared to suffer more from loss of bees than the others. The crosses, however, kept their ground, and were ready to swarm two weeks earlier; but, being delayed through stress of weather, swarmed first, yet on the same day as the Carniolans. On account of the young queens being hatched in the former the first swarm was less in size, so that even after careful weighing it would not have been a sure test had there been honey. Contrary to previous experience, the old queen was kept safe by the swarm. The young ones that accompanied it taking refuge in nuclei and other hives gave me no little trouble. Thanks to noisiness of the Punics, their usurpations, like that of the pirates of others' inventions and ideas, betrayed their places of refuge; they were duly searched for, and as quickly dispatched. Had it not been for their loud trumpeting my nuclei of pure breeds would have all been changed into second cross Punics.

On further examination of some of my stocks on the 2nd, I must say that both pure and crossed Punics were, with the exception of the crossed Syrian, as rich in honey as any other breed, and everyone I gave queens to in 1891 reports Punics the best of any. A first swarm only half a mile distant has four 6 lb. supers well forward, the only ones known in the neighbourhood. From an Italian cross Mrs. Glen, Barrhead, took a super of 19 lbs. at the end of June; but it is a better locality than ours.

So far as experiments have gone they have proved that what has been printed on Punic bees outside these columns is inaccurate and unreliable, even to that which says no honey need be expected from first swarms; but let truth prevail!

I have several inquiries for Punic queens. I wish to repeat that I do not sell them. It would not be fair of me to do so on the strength of another's advertisement in the *Journal of Horticulture*. I do not know what I may do in the future, but if I arrange to sell queens I shall advertise.

SWARMING AND SUPERING.

As a rule, in such weather as we are experiencing bees, if they have sufficient breeding space, make no preparation to swarm. If the bee-keeper is watchful of his bees and the weather he will know to a moment when to super, and if that is done at the right time the bees will at once take possession of the supers and fill them rapidly. If he takes further thought he will, by properly estimating the strength of his hives, be able to place two sets of supers upon some of the strongest, which will be filled more rapidly, and be of greater beauty than those on weaker hives. If any super stocks swarm remove the stock at once to a good distance, or within doors for a time, so as to secure as many bees to the swarm as possible, placing a decoy hive on the spot until the swarm takes its place, which should be without delay, then transfer the supers from the stock to the swarm.

Should the weather break shortly after the transfer of supers transfer all combs containing honey from the stock so that the swarm will finish the supers. Of course these combs must have their seals broken and placed in an under division of the swarm's hive. The great majority of practical hints are not to be found in books, nor is it possible to state them all here, as they must vary with the weather, which is variable in the extreme. Bee-keepers should therefore study well what is best to do for their bees and their own advantage.—A LANARKSHIRE BEE-KEEPER.

PUNICS—MORE DARKNESS.

No wonder you make no attempt to make matters clear to Mr. Carlton, on page 19, July 7th. The same Editors of the paper in question told a correspondent on September 17th last that they were acquainted with the bees of Tunis, but the so-called Punic bees did not exist in that country. Now, on June 30th they make it clear that I got them from Tunis. They also say they were one week at the "spot." On July 7th they say it was not during their swarming season, and a few lines after they speak of them throwing large numbers of swarms, sometimes with as many queens as worker bees, and they themselves counted sixty cells on one comb. How bees can construct so many cells, and swarm with more queens than bees, all in "one week," and yet not be their swarming season, is a puzzle to me, and will be so to every other bee-keeper who understands anything of their natural history. It may go down with novices who do not know how long it takes queens to develop, and there are some who will believe anything that some people tell them, like the old woman who said she had so much faith in her parson that if he said Jonah swallowed the whale she would believe him. It is almost astounding to read of an explorer making such wonderful discoveries in one short week. I have never seen so much during the "seven years" I have had Panics. The way the traveller contradicts himself, and differs from every person's experience who has tried these bees, leads to the conclusion that he has been misled. If Mr. Carlton will bear this in mind, he will not be surprised by the conflicting statements he desires to be made "clear."—A HALLAMSHIRE BEE-KEEPER.



* * All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Book on Vines (G. H.).—Mr. Taylor's book "Vines at Longleat," was published at this office, but has been out of print for some time. The author might have a spare copy which he could let you have.

Heating Forcing Houses (A. G.).—As your letter is not of urgent importance we will reserve it for fuller consideration and reply next week than could be given to it in the midst of busy preparations for press.

Moveable Fowl Houses (M. A. K. F.).—These are not made by the majority of the horticultural builders, but probably you could get them from Mr. Cooper, 751, Old Kent Road, London, S.E. We think he makes them.

Iris stylosa (M. F. C.).—In late districts and on cold soils this Iris cannot be depended upon to bloom in the open, and in these circumstances it is necessary to cover the plant with a bellglass or handlight in October, and to allow this to remain until spring, tilting the glass so as to admit a supply of air. See Names of Plants.

Aquilegia glandulosa (M. F. C.).—This fine Aquilegia is of somewhat difficult culture in some soils, but may be grown successfully in a moderately light loamy soil with a plentiful supply of water while coming into bloom. It is, however, a plant which frequently gives a good deal of trouble before its precise requirements can be found in any particular garden.

Grapes Cracking (N. W.).—We have no doubt the chief cause of your Madresfield Court and Ferdinand de Lesseps Grapes cracking is an excess of atmospheric moisture. These Grapes are prone to crack through the peculiar nature of the skins, through which moisture passes freely, rupture ensuing. The best Grape growers prevent the evil by preventing the cause of it. This is done by free yet judicious ventilation, and not allowing anything approaching "still" damp air to surround the berries. This is far more conducive to the evil than is moisture in the soil, though this when it can be prevented, as in inside borders, should not be excessive.

Wireworms in Vine Border (G. G.).—There is no better plan than the Carrot traps, which take them alive, and the cultivator has the satisfaction of knowing when he kills them that they cannot do further

mischievous. The baits should be placed about 1 square foot apart, and, examined daily; the pests will soon be cleared. There is no wholesale method of destruction but poison, and that is not so good as the Carrot baits on so small an area as the Vine border. If after using the baits a few days no more wireworms are taken, you may sow Mustard on the border, and let it grow until it commences to flower, and then trample it down and cover with a little fresh soil.

Superphosphate of Lime (Kittie).—Instead of scattering the sediment we should prefer to strain the liquid by passing it from one vessel into another through a piece of muslin, or by pouring it out carefully. This could be used about twice a week to plants requiring support, giving it in the form of an ordinary watering. It would tend to improve the bushes, and would be safe. It is probable, however, that greater benefit would accrue from a light dressing, say a quarter of a pound to the square yard, applied to the bushes in spring, scattering it on the soil, and hoeing it in carefully, or pointing it in with a fork. Try both plans, and note the results.

Scab on Tomato (Keswick).—The best preventive is thorough exposure of the plants to light, a genial atmosphere, kept buoyant by gentle warmth and careful ventilation. The atmosphere has been too close, hence mould at the apex of the fruit where the flower had been. Beneath the dried skin there were filaments (mycelium) of a fungus which has not broken through because the scab is too hard and dry, and will not, we apprehend, appear, as the fruit is so far advanced in ripening. But the fungus appears to be *Cladosporium lycopersici* dormant, and may in this case appear in the fruit of the progeny under favouring conditions.

Training and Setting Melons (Anxious to Know).—You appear to have proceeded correctly in training the Melons. Fertilise one flower on each of the side shoots, endeavouring to do all at the same time in order that they may swell evenly. Do not allow more than one fruit on each shoot. Permit the growths to develop one healthy leaf beyond the fruit, and then stop them, or you will have the plants densely crowded with foliage. If the weather is bad for artificial setting the chances would be worse for impregnation to take place without, therefore transfer the pollen in the usual way from the staminate to the fruit-bearing bloom. Do not overcrop the plants. Probably four fruits are as many as each will develop properly.

Spots on Ivy-leaved Pelargonium Foliage (E. G. B.).—The leaves are spotted by the inroads of a small micro-organism, which produces a yellow discoloration of the green parts, as you may see if you hold a leaf up to the light; and the scab is a result of the abnormal growth of the epidermal tissues, and the consequent effort to cover the injured part with a fresh skin (cuticle). The yellow spot is probably caused by a minute fungus, evidently a septoria, whilst the scald is due to another fungoid growth of the genus *Tubercinia*. Try spraying the plants with a weak solution of ammoniacal carbonate of copper, for which a formula has repeatedly been given in these columns. But there is nothing like a genial atmosphere and a free-rooting medium, not over-watered, nor too rich, for keeping the plants in health.

Aphides on Pansies (C. B.).—There is no difficulty in destroying green fly on Pansies if they can be reached by a solution of quassia and soft soap, but when the insects have been overlooked and allowed to increase till the leaves become curled up it is not easy to reach them. In such cases it is often advisable to take the tops off if much infested, and encourage fresh growth, which should be kept clean. Boil 2 ozs. of quassia chips gently for twenty minutes, also dissolve 2 ozs. of soft soap in a gallon of water, mix, and then add another gallon of water, then if you can dip the Pansy shoots in the mixture you will find it will destroy the insects. Tobacco powder will also destroy all you can dust with it. Mr. Simkins' work of 110 pages, entitled "the Pansy, and How to Grow and Show It," is good. It is published by Messrs. Cornish Brothers, Birmingham, and Simpkin, Marshall & Co., London. The price can be obtained from a bookseller.

Eucomis punctata (C. R.).—The plant of which you send flowers, taken from a spike, is an *Eucomis*, probably *E. punctata*. It is a Cape of Good Hope bulbous plant, and was introduced to this country in 1783. It is easily cultivated, growing well in sound loam kept porous with crushed charcoal and pressed down firmly. After flowering the plants may be stood in a sunny position in the open air, giving adequate support for producing good foliage. Allowing seeds to ripen has a weakening tendency. Reduce the supply of water as the foliage ripens, and keep the soil dry, but not dust dry, in winter in a frame or cool house from which frost is excluded. In spring abundance of light is needed by the growing plants, with adequate supplies of water for their support. We have had plants established in a narrow border in the open air for years next the south wall of a greenhouse. The bulbs are nearly a foot deep, and the border is mulched with manure on the approach of winter.

Bottling Green Gooseberries (J. M., York).—The Gooseberries should be of the small varieties, Rumbullion being the best, and not more than half grown. Put them into open-mouthed bottles, such as are used for pickles, and fill with soft cold water that has been boiled. Place the bottles up to the neck in cold water, and let it boil until the fruit begins to shrink, which will be in less than five minutes. Remove the vessel from the fire, or, if it be a copper, take the fire from under it, and when the water is cold take out the bottles. They should not be removed hot from the water, as sudden contact with the air might crack them. When cold cork securely, and wash over, as the corks of pickle

bottles are done, with resin. The bottles may then be buried in the ground, not less than a foot deep, in a dry cool place, on the north side of a wall, but it answers just as well to keep bottled Gooseberries in a dry cool place, such as is often available in cellars or dark store rooms. We are not aware that Cherries and Red and White Currants may be treated in a similar manner; indeed, these fruits are not generally used for tarts in a green state. It is no uncommon thing, however, to preserve ripe Morello Cherries in brandy. These are called brandy Cherries, and are used at dessert. The liqueur is termed Cherry brandy.

Insect on Pea Haulm (T. L.).—The growing points and flowering parts of the Pea haulm are destroyed by the larvæ of a moth belonging to the group of *Tineina*, and only differ from the Diamond-back or Turnip moth larvæ in being about eight times smaller. Dusting the haulm with dry soot or quicklime in the morning or late evening, when damp with dew, has been found effectual against the pests. Lime water made by slaking freshly burned limestone or chalk in a tub and adding 3 gallons of water to each pound of lime used, stirring well, and allowing to stand forty-eight hours, then syringing the Peas with the clear water only, has also been found efficacious. Preventive measures ought, however, to have been taken at a much earlier period. Quassia water is useful against the pest, and taken in time sufficient to prevent infestation. In extreme cases 1 oz. of Paris green to 20 gallons of water has been had recourse to and completely extirpates these pests, as well as those belonging to the group *Tortricina*, or Leaf-roller moths. It must, however, be used very carefully, and not over vegetables which are used for food. It must only be used as a spray, and kept well agitated whilst being applied. It is a dangerous poison. If you add 2 ozs. of soft soap to every gallon of the quassia water it would prove more effectual by holding on to the haulm better and longer.

Tomato Flowers not Setting Fruit (X. Y. Z.).—The flowers are imperfect, and the fruit cannot possibly set. In fact, the ovaries appear to be destroyed by some fungus, evidently that of the Potato, *Phytophthora infestans*. We should try "bouillie bordelaise," which may be made of 5 lbs. of sulphate of copper, 2½ lbs. of unslaked lime, and 25 gallons of water. Put the sulphate of copper in a bag, and suspend it in cold water overnight or until the sulphate is completely dissolved. The lime, freshly slaked with water and kept till it is cooled, should be poured into the bluestone solution through a sieve, so as to catch the stones and hard lumps. Keep the liquid continually stirred as the lime is being added. With this mixture spray the Tomato plants, keeping the mixture well mixed if a syringe with a spraying nozzle is used; but the Eclair knapsack pump is much the best means of applying bouillie bordelaise. All that is necessary is to coat the foliage and plants with the thinnest possible film, yet effectually in every part. It, however, must be kept from the fruit after it is more than a quarter advanced in swelling, and be well syringed in the course of a few days so as to cleanse it of the copper. As you cannot get the fruit to set the early preventive treatment is necessary. After the fruit becomes infected there is great danger in using the bouillie bordelaise, through its adhering to the fruit and being a possible source of danger, as the sulphate of copper is very poisonous.

Grapes Unsatisfactory (Y. Z.).—The Grapes are in a very unsatisfactory condition. They are small, badly coloured, and shanked, and the quality is inferior. We should have liked to see a specimen of the growth as well, for the bunch clearly indicates that there is something seriously wrong with the Vines. You say that they have been planted about twenty-seven years, that they are in a narrow inside border 16 inches wide, and that they are allowed to run outside. You add that the rods are 17 feet long, carrying twenty-five bunches, of an average weight of 1½ lb. First, we think it highly probable that the majority of the principal feeding roots are outside the house, and it is most likely that they have run into poor material, possibly sour and inert. This would tend to enfeeble growth, small bunches, small fruit, shanking, and imperfect colouring. Moreover, the evil has been aggravated by overcropping. Vines in the condition that we may reasonably suppose yours to be ought not to carry upwards of 2 lbs. per foot of rod, or even half that weight. With respect to ameliorative measures the first step should be the removal of all such bunches as that you have sent, even if this means stripping the Vines entirely of fruit, for they are worthless, and will only put a further strain on the already enfeebled rods. Then in the autumn, as soon as the leaves turn yellow, we should bare the roots and endeavour to trace their course. If, as we suspect, they have run into some bad soil, remove them, cutting off any that are decayed, and shortening others that are very rank in character. Lay them nearer the surface in fresh soil, such as sound turfy loam, with a sprinkling of wood ashes, over a foot depth of rubble for drainage, and you might also notch a few of them, and place a few handfuls of wood ashes around them in order to encourage the formation of fresh fibres. Press the soil firmly around them. With the formation of a network of roots of a fibrous character, such as may be expected to issue consequent on the employment of sweet, friable, fertile soil, more healthy and vigorous growth may be looked for. Maintain this in health by keeping insects under, and by full exposure to light, not permitting overcrowding. Crop the Vines lightly next season; half a pound of fruit to each foot of rod will be ample. With due attention to other details of management we think that improvement will result, provided the Vines have not been injured beyond recovery, in which case there will be no resource but to plant young ones in a fresh border. Your desire to effect improvement is praiseworthy, for such Grapes are not a credit to anyone.

The Nettle as Food (*E. F. Yorks*).—Young Nettle tops are closely gathered and readily eaten in some districts in the spring. As to their value, you may peruse what Mr. Josiah Oldfield, M.A., B.C.L. (Oxon) wrote some time ago in the *Pall Mall Gazette*:—"It is in springtime that man's heart is said to 'lightly turn to greens,' and this craving is a warning of Nature not to be despised. Sprouts and Cabbages bound the horizon of 'greens' in the eyes of the ordinary cook, so that this scant variety, combined with a minimum of originality in the mode of tasty cooking, causes the *crambe repetita* to be a stock subject for scornful sarcasm. May I press upon your readers—with the hope that by patient persistence year after year our descendants may possibly be influenced to use foods that are now despised—that there is a valuable vegetable that comes in early, when everything is scarce, and lasts in season till other things are abundant, which grows without care or trouble in every hedgerow and neglected corner, and loves the ditch banks beneath old fences? Beds of it spring up year after year, tender, luscious, and juicy, on waste lands and entangled glades, and grow rank and strong, and die down again in autumn, unknown and uncared for, while all the time the poor are hungry, and the rich are dyspeptic, unconscious of the value of this plant to help to fill the stomachs of the first and relieve the troubles of the latter. The vegetable to which I refer is the common Stinging Nettle (*Urtica dioica*). To gather it take out a basket, a pair of gauntlets, and a strong pair of scissors, and cut off the young shoots, which are just now ready in sheltered places and soon will be plentiful everywhere. Take them home, put them in a sieve, and pour water over them to cleanse them; then put them into boiling water, and boil sharply till done. They have now lost all power of stinging, and taste like very delicate Turnip-tops. They may be served on toast like Spinach, with fried or poached eggs. If people believed more in the *medicatrix vis nature*, and took their tonics, antiscorbutics, and diuretics direct from Nature's delightful laboratory as she supplies them in their due season, we should have less and less of the miserable wail of an increasingly dyspeptic humanity and more of the happy melody of joyous health."

Potato Disease Experiments (*F. Smithson*).—The Bordeaux mixture has been of service in some cases, while in others it has had no profitable result. Messrs. Robert Veitch & Son, Exeter, sent us a report of their experiments last autumn, from which we cite the following:—"In our nursery we selected a piece of ground that was almost level, and of an oblong-square shape, measuring 90 feet by 60 feet. The soil was a deepish loam, resting on a bed of red clay, and the aspect was perfectly open. The drills ran the short way of the piece—east to west—and were thus each 60 feet in length. We planted ten varieties. Two were new to us, being sorts lately raised in America; four were comparatively new sorts, of English origin; the other four were—The Dean, Village Blacksmith, Early Puritan, and Prodigious. Ordinary and not very rich animal manure was used, with a fair dose of lime put in at planting time. Eight feet of each drill was staked off at the top, and was treated on the Janssen principle; 8 feet at the bottom was treated with the Bordeaux mixture; and the 44 feet in the middle of the drills was not treated at all. By the 24th of July the disease had shown itself in a pronounced form, especially upon The Dean and the Village Blacksmith. To the 8 feet at the bottom of the piece we then applied the solution over the foliage, at the rate of 140 to 150 gallons per acre. A day or two after the application the rough-leaved sorts showed signs of having been 'burnt' in the foliage—the effect of the mixture—but the smooth-leaved sorts did not show any such effect. This seared appearance, however, soon passed off, and the plants apparently renewed their growing term and assumed a healthier hue than before. In due course, one after the other of the sorts began to show signs of maturity from the top of the piece to within 8 feet of the bottom, but, to a single plant, the instant the drill reached the copper-treated Potatoes, decay was arrested, and the haulm remained green and flourishing. We were astonished at this new phase, for, though several agriculturists in France, as we have since learned, had in 1890 and 1891 noticed the same thing, we had not seen it mentioned in any English journal. The earliest of the sorts under trial showed proof of an extension of their time of growing under the copper treatment, while a late one—Prodigious, a vigorous grower—did not give up until the third week in September. On digging the lots and picking out the diseased Potatoes from each lot, the result was most convincing. In all the sorts the 8 feet of the drills treated on the Janssen principle were a little diseased more or less, and the crop was, owing to the growth being checked, rather light. The 44 feet in the middle had, in some of the sorts, suffered most severely. But, on crossing the line and coming into the copper-treated territory, the crop was heavier in all the sorts, and the disease reduced to a minimum, in one case—that of Prodigious—not a diseased tuber being found. Comparing the result of the different courses of treatment, it may be put thus:—For the Bordeaux mixture, 6; for the Janssen method, 4; and for the 'leave to nature' policy 3; taking these figures to represent the proportionate yield of sound tubers. In short, the French remedy proved with us an unqualified success, for it acted as a preventive where the disease had not yet appeared, and as a cure where it had done so, at the same time showing itself to have had a fertilising effect as well, by prolonging the growing period, especially of those sorts which were naturally late in maturing." As has been remarked in this Journal, an extensive and successful grower of Potatoes for market, who is alive to most things that pay, says, in his opinion, it is "better to grow the strong than doctor the delicate."

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers.

Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*F. G. W.*).—1, *Nellia opalifolia*; 2, *Philadelphus Gordonianus*; 3, *Andromeda speciosa*; 4, *Genista virgata*. (*J. S.*).—1, *Bromus sterilis*; 2, *Doronicum austriacum*; 3, *Veronica rupestris*; 4, *Bromus brizæformis*; 5, *Viburnum Opulus*; 6, *Rose Persian Yellow*. (*A. C.*).—It is *Olearia Haasti*. (*C. N.*).—A *Eucomis*, probably *punctata*; see Correspondence. (*T. L.*).—1, *Rhus cotinus*; 2, *Cornus Spathi*; 3, A form of *Ulmus montana*; 4, *Cassinia fulvida*; 5, *Choisya ternata*; 6, *Spiræa Thunbergi*; see Correspondence. (*M. F. C.*).—1, *Adiantum Weigandi*; 2, *A. gracillimum*.

COVENT GARDEN MARKET.—JULY 20TH.

HEAVY supplies now to hand of sieve fruit, realising fair prices.

FRUIT.							
	s.	d.	s. d.		s.	d.	s. d.
Apples, Tasmanian, ease	2	6	to 5 0	Lemons, ease	10	0	to 15 0
Cherries, per half sieve	2	6	7 0	Oranges, per 100	4	0	9 0
Currants, Red, half sieve	3	6	4 0	Peaches, per dozen	2	0	8 0
" Black, half sieve	5	6	0 0	St. Michael Pines, each	3	0	6 0
Grapes, per lb.	1	0	2 6	Strawberries, per lb.	0	3	1 0

VEGETABLES.							
	s.	d.	s. d.		s.	d.	s. d.
Beans, Kidney, per lb.	0	9	to 1 0	Mustard and Cress, punnet	0	2	to 0 0
Beet, Red, dozen	1	0	0 0	Onions, bunch	0	3	0 5
Carrots, bunch	0	4	0 0	Parsley, dozen bunches	2	0	3 0
Cauliflowers, dozen	2	0	3 0	Parsnips, dozen	1	0	0 0
Celery, bundle	1	0	1 3	Potatoes, per ewt.	2	0	5 0
Coleworts, dozen bunches	2	0	4 0	Salsify, bundle	1	0	1 6
Cucumbers, dozen	2	6	4 6	Scorzonera, bundle	1	6	0 0
Endive, dozen	1	3	1 6	Seakale, per basket	0	0	0 0
Herbs, bunch	0	3	0 0	Shallots, per lb.	0	3	0 0
Leeks, bunch	0	2	0 0	Spinach, bushel	3	0	3 6
Lettuce, dozen	0	0	1 6	Tomatoes, per lb.	0	6	0 9
Mushrooms, punnet	1	6	2 0	Turnips, bunch	0	6	0 8

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

Orchid Blooms in variety.							
	s.	d.	s. d.		s.	d.	s. d.
Arum Lilies, 12 blooms	2	0	to 4 0	Maidenhair Fern, doz. behs.	4	0	to 6 0
Asters, French, bunch	1	0	1 6	Myosotis or Forget-me-not, dozen bunches	2	0	3 0
Bouvardias, bunch	0	6	1 0	Mignonette, 12 bunches	2	0	4 0
Carnations, 12 blooms	0	6	2 0	Orchids, per dozen blooms	2	0	8 0
Carnations, Malmaison, 12 blooms	2	0	4 0	Pansies, dozen bunches	1	0	2 0
Caruations, dozen bunches	4	0	6 0	Pelargoniums, 12 bunches	4	0	6 0
Coruflower, dozen bunches	1	6	3 0	" scarlet, 12 bunches	3	0	4 0
Eschscholtzia, doz. bunches	2	0	3 0	Pinks, dozen bunches	2	0	4 0
Eucharis, dozen	2	0	4 0	Poppies (var.), doz. bunch	1	6	6 0
Fuchsias, per bunch	0	6	1 0	Primula (double) 12 sprays	0	6	0 9
Gardenias, per dozen	2	0	4 0	Roses (indoor), dozen	0	9	2 0
Gypsophylas, French, large bunch	1	0	2 0	" (outdoor), doz. bunch	2	0	6 0
Gypsophylas, English, small bunch	0	4	6 0	" Red, per doz. blooms	1	0	2 0
Lilium candidum, bunch	1	6	2 0	" Tea, white, dozen	1	0	3 0
Lilium longiflorum 12 blooms	2	0	4 0	" Yellow, dozen	2	0	4 0
Lilium (var.) doz. blooms	0	6	2 0	Spiræa, dozen bunches	4	0	6 0
Marguerites, 12 bunches	2	0	4 0	Stocks, dozen bunches	3	0	6 0

PLANTS IN POTS.

	s.	d.	s. d.		s.	d.	s. d.
Arbor Vitæ (golden) dozen	6	0	to 12 0	Lycopodiums, per dozen	3	0	to 4 0
Begonia, per dozen	6	0	12 0	Marguerite Daisy, dozen	6	0	13 0
Calceolarias, per dozen	3	0	6 0	Mignonette, per dozen	4	0	6 0
Cupressus, large plants, each	2	0	5 0	Musk, per dozen	2	0	4 0
Dracæna terminalis, dozen	18	0	42 0	Myrtles, dozen	6	0	9 0
" viridis, dozen	9	0	24 0	Palms, in var., each	1	0	15 0
Euonymus, var., dozen	6	0	18 0	" (specimens)	21	0	63 0
Evergreen, in var., dozen	6	0	24 0	Pelargoniums, scarlet, doz.	2	6	4 0
Ferns, in variety, dozen	4	0	18 0	" per dozen	6	0	12 0
" (small) per hundred	8	0	12 0	Rhodanthes, per dozen	4	0	6 0
Ficus elastica, each	1	6	5 0	Saxifraga pyramidalis	1	6	2 0
Foliage plants, var., each	2	0	10 0	Spiræa, per dozen	8	0	12 0
Fuchsia, per dozen	3	0	8 0	Trailing plants (various), per dozen	3	0	9 0
Geraniums, Ivy	4	0	6 0	Tropæolum or Nasturtiums per dozen	4	0	6 0
Hydrangea, per dozen	9	0	15 0				
Lobelia, per dozen	3	0	6 0				



DAIRY COWS.

"THE cows are gadding through fly to-day, there will not be much milk to-night," said the wife of a dairy farmer on whom we called recently. She was naturally anxious, for though the season proves to be so good a one for cheese-making, it began badly, the milk yield being so low at the outset that in April and May, the first and second months of the cheese season, the

number of cheeses made was much below the average. With more herbage, and warm, not hot, weather in June, the milk yield improved so much that the cheese average was closely approached by the end of the month. July, with its sultry afternoons, when gadflies bore into the cows' hides, is a very trying month, the pain from the terrible blood-suckers causing the frantic animals to rush about with tails erect, the excitement of their efforts to escape from the flies telling so seriously against milk secretion that there is always a considerable falling off in quantity on such days.

The remedy for the mischief is simple and obvious enough. Keep cows in covered yards or cowsheds on very hot days, with water, rock salt, and racks well supplied with any such nourishing green food as Tares, Clover, Lucerne, Sainfoin, the best meadow grass, or "seeds." If mixed meal is used by all means give them some while they are kept in. With such shelter and plenty to eat there will be a full yield of milk at the evening milking, after which the cows are turned out to graze, and repose in comfort through the night.

It is strange indeed that any and every available means of shelter are not turned to account in this way, but they are not. We built commodious cowhouses replete with every convenience in a central position out on the pasture, close by a pool of good water, for two of our tenants in June, yet we are told they are not required for use till autumn. It is not the custom of these particular graziers to try and protect cows from gadfly attacks. They came to us complaining of deficient accommodation for cows on their holdings, yet have not sense enough to turn the new cowhouses to account which have been provided by a generous landlord with such promptitude and liberality in response to our appeal. The only idea such men appear to have of shelter is to have the cows indoors during very rough weather in winter; the possibility of turning shelter to profitable account in summer is too novel and high a flight for their prosaic imaginations.

Good management includes every point at all likely to affect the health of the cows. They show plainly enough how much they suffer from the gadflies. We ought to know that by keeping them in during sultry weather the worry and consequent loss of milk is avoided now, as well as the subsequent suffering from warbles in winter and spring. Complaints of the long hard winter, late spring, and consequent short commons for the cows have been frequent enough of late; let us see that we are not wanting in anything—any point of management at all calculated to affect the cows for good. No doubt they possess great powers of endurance, but are we wise to test them as we do? Surely it would be altogether better for the cows and better for us to act more upon the principle of prevention, and so avoid the waste of vital force, which goes on throughout the year more or less in so many herds. The term waste is singularly appropriate and comprehensive in relation to ordinary cow management. We certainly waste the powers of a cow by mismanagement, by unwholesome or insufficient food, by exposure to extreme cold, or heat, or flies, and by unsanitary buildings. In striving to amend let us not only do our best for the cows now, but also look forward a little and see what can be done for the better promotion of health and comfort in winter. No time could be better than this. We are engaged in making provision of food and litter for winter now; let us see if food, water, litter, and buildings are such as are calculated to answer them in the best way.

In the buildings we require thorough drainage and ventilation, hard dry floors, and the exclusion of cold draughts. The food should be heat-giving if we would have it fully nourishing. A winter dietary of roots, or into which roots enter largely, is most costly both to cultivate and use. No crop is so expensive as a root crop; nothing can be more trying than a meal of half-frozen roots, which lowers the temperature of the cow's body so much that most of the actual nourishment of the food goes to restore the vital heat which has been wasted by our folly. Of course the

roots are not always frozen, and they are sometimes used with moderation and judgment. Granting this, we would have roots regarded as only an adjunct to the winter dietary and not as its chief constituent.

Beware of unsanitary buildings. It is notorious how much more disease there is among cows than in any other class of farm stock; nor is it surprising, when we see such filthy, foul hovels as are so frequently to be met with. The poor animals stand and lie down in filth all the winter, they breathe the foul air of an ill-built, badly ventilated shed till their lungs become as diseased as their hides are foul with filth. This is one reason why a medical friend of ours has all milk received in his house sterilised by boiling before it is used. He is positive that the cause of many a case of consumption in human subjects can be traced to drinking impure milk.

WORK ON THE HOME FARM.

Where root crops are grown upon the home farm for market as well as for supplying the household, early and second early Potatoes should hold a leading place, especially in southern counties. Early field Potatoes in Essex were being lifted briskly on July 11th, when the price was a penny a pound in the retail shops; if growers realise half that amount upon a crop of say 10 tons an acre, they certainly have no occasion to complain of hard times. With the Potato crop off the land so early it is ready for Celery and Lettuce, or Turnips, or better still for autumn Onions, which ought always to be sown by the third week of July instead of the sowing being left till August, as it often is. With the haulm fully 2 feet in height the Potatoes have to be lifted with light steel forks. Men and boys were all working with a will, and would evidently not be long in clearing a few acres of the fine crop of tubers, which were without a blemish. That is another advantage of growing early Potatoes; they are off the land before the disease appears, and the growers require no *bouillie bordelaise* or any other nostrum. Their chief care is to have rich land and carefully prepared seed, then a full and early crop is a certainty. There must be no heaping up of the seed or burying underground; rather should it be spread out upon the surface for the skin to harden, and then placed on trays or shelves in single layers in a frost-proof building.

Much good hay continues to be made, and so far the season bids fair to be more favourable to the farmer than the last three have been. Late springs and wet haysels have brought bankruptcy upon many a man, hence our frequent advice to keep the head of live stock well within due bounds. So far hay has had preference to silage, but if the weather becomes broken the wise course would be to revert to ensilage at once. Before all things we must have plenty of wholesome food for winter use. Silage is wholesome, and cheap food too, which ought always to be to the fore in a moist climate. Implements for hay-making are useful on all farms, they are especially so on small farms where with a two-horse mowing machine, a tedder, and horse rake, we recently saw father and son practically independent of hired labour. Such independence has gradually come to be a necessity since settled labourers became so scarce. It is true there are always "gentlemen of the road" to be had, but such aid as they afford is a very doubtful blessing indeed.

Do not forget to use a sack stuffed with straw drawn up the middle of the hayrick to make a funnel to admit the free escape of hot air from hastily built ricks, or where the hay has been carted before it was quite dry.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.
1892. July.	Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.
Sunday .. 10	30.027	59.5	54.4	W.	60.7	71.8	51.6	120.7	46.1	—
Monday .. 11	30.015	61.3	56.1	E.	60.2	71.1	53.9	129.0	46.2	—
Tuesday .. 12	29.648	64.2	57.6	E.	60.1	68.0	52.0	113.0	46.0	0.166
Wednesday 13	29.592	60.4	57.7	N.E.	59.9	62.7	55.2	94.0	52.3	0.030
Thursday .. 14	29.821	55.0	53.8	N.	59.1	58.6	52.1	69.4	52.1	—
Friday .. 15	30.060	57.2	52.6	S.	58.0	67.6	51.6	89.6	47.3	—
Saturday .. 16	29.851	63.2	58.3	S.W.	58.0	73.0	50.1	102.9	43.8	0.058
	29.860	60.1	55.8		59.4	67.5	52.4	102.7	47.7	0.254

REMARKS.

- 10th.—Overcast morning, frequent sunshine in afternoon.
 11th.—Overcast morning, but frequent sunshine in afternoon; cloudless evening.
 12th.—Occasional sunshine in morning, showers in the afternoon.
 13th.—Heavy rain between 2 and 3 A.M., overcast all day, rain at night.
 14th.—Overcast throughout, with drizzle in morning.
 15th.—Dull and gloomy throughout.
 16th.—Generally overcast in morning, frequent sunshine in afternoon.
 An average week, but very little sun in the latter part.—G. J. SYMONS.



WITH the beauty of July around us we long for a portion at least of that gift which enabled the late Richard Jefferies to write thus of the Birdsfoot Lotus—"Here by me is a praying rug just wide enough to kneel on, of the richest gold inwoven with crimson. . . . It is, indeed, too beautiful to kneel on, for the life in these golden flowers must not be broken down even for that purpose. They must not be defaced, not a stem bent; it is more reverent not to kneel on them, for this carpet prays itself. I will sit by it, and let it pray for me. It is so common, the Birdsfoot Lotus, it grows everywhere; yet if I purposely searched for days I should not have found a plot like this—so rich, so golden, so glowing with sunshine."

CORONILLA IBERICA.

It is some months since I read the above words, and to-day, looking round my garden and examining a good plant of *Coronilla iberica*, which bears a considerable resemblance to the Lotus, they flashed across my mind, and I could not refrain from searching for them and quoting them here. This trailing *Coronilla*, though lacking to a great extent the crimson which mingles with the gold of our native plant, has beauty in plenty to excite our highest feelings of admiration as we see its deep yet bright green pinnate foliage trailing over the rockery and bearing many Lotus-like flowers arranged in the form of a crown, whence the name *Coronilla* from *corona*, a crown. *C. iberica* is one of the best of our yellow-flowered rock plants, beginning to bloom here in June, and continuing in flower for a considerable period. As the specific title would lead us to infer, it is a native of Iberia, whence it was introduced in 1822. It is deciduous, and grows freely in any light soil, being seen to best advantage if planted where it can hang over a stone. I have not yet propagated from my plant, although I have had it for some years. Although propagation by means of cuttings is said to be practised, it does not look as if it would lend itself readily to this method of increase, and I should prefer raising it from seeds. It seems to remove readily in early spring.

CAMPANULAS.

Many of the Campanulas or Bellflowers are in bloom at present, and many of my readers will agree with me that we have few more attractive flowers of the month. The species and varieties are so numerous that a detailed notice of those I have grown must be left until another time. There is one, however, I have under the name of *C. cenisia*, the Mont Cenis Harebell, which is so attractive that I feel constrained to speak of it briefly, although it is possible that I may have it under a wrong name. Fancy a little plant with somewhat hairy foliage, and when in full flower only about 2 inches high and bearing many solitary flowers which, when in bud, look like large, porcelain-coloured, enamelled beads, and are when fully open about 1 inch deep and $1\frac{1}{2}$ inch across and of a pale yet bright blue. There is a strong resemblance in some respects to *C. turbinata*, but at the same time the plants are quite distinct, the flowers being deeper and of a different form, although, like those of *C. turbinata*, they are erect. *C. cenisia* is said to prefer slate in the soil, and my plant is growing in a pocket of the rockery which has the surface of the soil "mulched" with pieces of slate broken small. A writer on Alpine flowers

has said that *C. cenisia* did not seem to be an attractive kind in its native home. Whatever may be the case there it is one of the most beautiful I have yet seen. Another pretty variety for rockwork is one I have under the name of *C. Portenschlagiana* and which is said to be synonymous with *C. muralis*. This has bright green smooth foliage and small deeply cut semi-pendent flowers of a bright blue. It is a good grower and gives very little trouble.

As regards its identity with *C. muralis*, I have for some time been endeavouring to get hold of plants under the latter name, and in every case they have been identical with *C. Portenschlagiana*. Another plant is, however, figured in Maund's "Botanic Garden," and in the notes accompanying the illustration the question of the identity of *C. muralis* and *C. Portenschlagiana* is discussed. It is said to have been named *C. Portenschlagiana* by the German botanists Roemer and Schultes, but to be quite distinct from that species as figured in the "Flora Græca." Another excellent illustration of *C. muralis* appears in Wooster's "Alpine Plants," and the plant there figured seems to be identical with that given by Maund. Wooster says: "Two states of this species (which is sometimes found under the name of *Portenschlagiana*) are described by M. Alphonse de Candolle, the one quite smooth, the other velvety with down." The plants I have had under the names of *Portenschlagiana* and *muralis* are, however, quite distinct from those figured in the above works, as the flowers are more campanulate and more uniform in colour. I should, however, be glad to have any information regarding the *C. muralis* of Maund and Wooster.

Though July has many gems in the way of flowers for the rockeries, her glory is more fully revealed in the many more showy flowers she reveals to our admiring eyes. Carnations, of which Shakespeare says,

"The fairest flowers of the season
Are our Carnations and streaked Gillyflowers,"

begin to open their beautiful and fragrant blooms to enchant us with their form, their colour, and their perfume. The Lily, too, has her standard bearers of various forms and colours, and very decorative are many of these in the borders. Alexander Montgomery speaks of the Lily—probably the Madonna Lily, *L. candidum*—in glowing terms, saying:—

"I love the Lily as the first of flowers
Whose stately stalk so straight up is and stay;
To whom th' lave ay lowly louts and cowers
As bound so brave a beauty to obey."

ERYNGIUMS.

Curiously beautiful are some of the Eryngiums or Sea Hollies, which one is glad to find so rapidly gaining ground in public favour. One of the finest of the blue-tinted forms, and one of the easiest to grow, is *E. alpinum*, the Alpine Eryngo. This has somewhat large leathery leaves and heads of fine deep blue, so beautifully feathered and cut as to look as if made of feathers coloured with blue. Scarcely less attractive, if not equally fine, is *E. Olivierianum*; it is of a different shade of blue and with deeply cut leaves. It is unfortunate that there exists a good deal of confusion regarding the names of the various Sea Hollies. My plant of *E. Olivierianum* was received under the name of *E. amethystinum*, which is a small-headed species, and I saw a short time ago two or three plants of Eryngiums received for *amethystinum*, which, although not in flower, appeared to be distinct from each other.

CENOTHERA YOUNGI.

In fitting contrast to the blue of the Eryngiums and of the taller Bellflowers is the beautiful *Cenothera Youngi*, one of the best of the taller perennial Evening Primroses. It grows here to about 3 feet in height, and is very conspicuous at present with bright green leaves, crimson stems and calyces, and bright golden

yellow corollas. It has been in flower for some time, and its many unopened buds show that its time of beauty is not nearly over. Not one of the least of its recommendations for garden purposes is that it is not one of the evening bloomers, but seeks the full light of the day, and glitters in the sunlight. I must, however, stop, as I have a journey before me, and have only a few hours left for much-needed work in the garden. There, among the flowers, in the bright sunshine of July the time will pass pleasantly, for Nature's children are around us decked in robes of her own handiwork, and dyed with inimitable colours. There the whites of *Sidalcea candida*, of *Lychnis vespertina alba fl.-pl.*, and of many others stand out among the lilacs and blues of the *Campanulas*, the *Cornflowers*, the *Sea Hollies*, and others of similar shades, which seem as if abstracted from the skies above. There, too, are reds and purples, pinks and roses, yellows and creamy shades innumerable, all delighting our eyes, even if unaided by the charms of the elegance of the flowers themselves or their graceful habits, and all combined giving an enjoyment which surpasses any to be found in other pursuits, for, as Bacon tells us in his familiar words, "It (a garden) is the purest of all human pleasures."—S. ARNOTT.

A WEEK'S DINNER-TABLE DECORATIONS WITH HARDY FLOWERS.

(Concluded from page 23.)

THE night following that on which pink flowers were used it was decided to have white only. Crimson silk was laid up the centre of the table; around this were arranged well-selected pieces of *Cryptomeria japonica*, the two ends being extended beyond the silk and brought round with a curve to the centre, so as to form the arc of a circle. Three tall stands were then lightly filled with *Marguerites* and white Pinks (Mrs. Sinkins), plenty of Fern and *Asparagus* being used for the base, and wild Grasses and *Cyperus alternifolius* among the tops of the flowers. Eight plates were then filled with sand, covered with *Maidenhair Fern*, and arranged lightly with exactly the same kinds of flowers as those in the central stand. Great care was taken to have them well finished—i.e., to secure a light surface, and still have the stems well covered at the base, so as to make them appear to be really growing from the green setting. The same kinds of white flowers were then dotted about at intervals around the tracing, bunches of them being arranged at the corners, and the work was completed.

An entire change of company being present on the succeeding night, it was decided to use pink *Pæonies* again in consequence of their having been so effective when previously employed. The stands and ornaments used on this occasion were gold. The table being larger the arrangements were worked out in a totally different style, and although the materials used were almost identical with those employed when the handsome silver bowl and vases already mentioned were brought into use, yet the contrast in appearance was complete, and proved on the whole to be one of the most showy and beautiful tables of the series. The three stands placed down the centre were those filled on the previous night with *Marguerites*; but were much more effective when arranged with *Pæonies* of a telling pink colour, half-opened buds as well as full-blown flowers being intermixed with field Grasses, Ribbon Grass, *Asparagus*, and Fern fronds.

Twelve groups of moss, each with a small Palm in the centre, were formed into groups on the table, so as to avoid anything approaching a straight line. These groups were varied in size to suit the space at command, and when finished they formed a series of recesses around the table of the right size to admit the principal dessert dishes to be placed in them. Each group was finished off by placing a few *Pæonies* and Fern fronds upon it. Long trailing pieces of *Asparagus tenuissimus* were then used to form a continuous drooping chain along the centre of the table, connecting the candelabrum and floral stands, Fern ends being allowed to trail down to the cloth here and there. *Maidenhair Fern* and *Madame Crousse Pelargoniums* were placed around the dessert dishes, but no other tracing of any kind was used. An imposing outline and undulating surface and an unimpeded view were characteristics of this display.

The following night the silver set was again brought into use. Yellow silk having been placed up the centre of the table and edged with golden Yew a capital groundwork was attained. A large bowl was used for the centre, a candelabrum on each side, and a good sized cup for each end. In the latter, as well as the bowl, *Rhododendrons* of the ponticum type were thinly arranged. The flowers

having the deepest colours were selected, good large trusses being used at the base and smaller ones towards and at the top. A few flowers of the bright yellow *Iris Pseud-acorus*, cut with long stems, were then thinly arranged among the *Rhododendrons*, some of their more deep green sword-shaped leaves being placed with them, and the whole finished off with a light Grass here and there. Palms with *Lycopodium* bases were then disposed about the table in pairs, and the tracing and dishes dotted with trusses of *Rhododendrons* of various sizes, reserving large full ones for the corners and wherever cross lines occurred.

On the final night a combination of pink and white flowers was used. A tall stand placed in the centre was very lightly arranged with pink *Pæonies* and *Marguerites* (cut with long stems). On each side of this, circular pieces of stiff brown paper, 2 feet in diameter, were placed, a tall plant of *Curculigo recurvata* with a single stem being stood in the centre; mounds of moss were formed around these, and some good bold fronds of *Lastrea Filix-fœmina* placed around the base, laying them flat upon the cloth with the points outward, the other end being pushed under the moss. The fine outlines of this useful Fern was then shown off to advantage. Pink *Rhododendrons*, white *Marguerites*, and *Asparagus* were then arranged lightly upon the moss, care being taken that although the flowers were thinly disposed the moss was completely hidden by the *Asparagus*. Eight very small Palms set in *Lycopod* were then arranged so as to form a curving line around the table, two others being placed on each side of the central stand at its base. Candelabra stands, dessert dishes, and Palms were then traced round with small sprays of *Weigela rosea*. This tracing was only broken at the points where it reached the flower banks. At those points the large Fern fronds laid upon the cloth protruded some distance behind the curving lines formed by the *Weigela*, and gave the whole a striking appearance.

As may be gathered from the above description everything upon the tables was virtually wreathed in an almost unbroken winding curve of *Weigela*, the delicate flowers of which looked especially beautiful when seen under artificial light; and although the arrangement was simplicity itself, personally I preferred it to any other in the series of dinner-table decorations.—D.

OUTDOOR PEACHES.

I NEVER saw these more promising than at the present time. All the varieties have abundance of fruit, which is swelling satisfactorily. All that is needed now is bright weather to ripen it and give it flavour. After the experience during the last season's flowering I shall not mind a degree or two of frost while the blossoms are open in the future. As an instance of how much frost Peaches will stand uninjured while in bloom on the open wall facing west we have three trees at Swanmore—Alexander, Dymond, and Early Louise, which, without any protection whatever, were exposed to 7° of frost. The trees are now carrying a full crop of fruit, apparently none the worse for their experience. All our Peach trees outside were subjected to the same frost, although with these exceptions they were covered with coarse scrim. Royal George on an eastern wall has a full crop of fruit, and so has Princess of Wales; while Hale's Early, Alexander, Grosse Mignonne, Bellegarde, and Walburton's Admirable growing against a south wall have had to be relieved several times of their surplus fruit, so freely did it set.

For the first time in a dozen years the trees escaped their usual spring crop of blister, which is mainly owing to the fact that at the period of their growth when they have hitherto been attacked we experienced no cold easterly wind as is usually the case. This, in my opinion, is the cause of blister, and its non-appearance this year is the result of their absence. The trees are now making free but not too robust growth. The shoots are being tied to the wires, thus exposing the fruit to more sun than it is possible for it to get where the young growth stands away from the wall. The great error committed in outdoor Peach culture (I know it is so here) is retaining too many shoots at this time of the year, which have to be severely thinned at the spring pruning, or after the fruit is gathered. The latter is the best time of all to prune Peach trees, cutting out the weakly growths that have borne fruit to give more space to others, which will have a better opportunity of maturing before the end of the present season. The fruit of the early kinds already shows signs of ripening. Any overhanging leaves ought to be removed to expose the fruit more fully.

We encourage surface rooting by a continual mulching of the border 4 feet wide from the wall, the soil of which is now pretty firm, not having been disturbed for ten years at least, and it is being constantly trodden upon. The front of the border is occupied with herbaceous plants, necessitating a path at the back for convenience in attending to the plants as well as the trees, an

arrangement all in favour of the Peaches, judging from the results of the treatment accorded. Outdoor Peach trees do not receive enough attention in the matter of moisture at the roots and overhead during hot and dry weather in a general way. Nightly drenchings of the foliage when hot and dry are all in favour of healthy leaves, free from red spider. This insect does much mischief if allowed to establish itself firmly on the leaves of the trees.—E. M.



ORCHIS FOLIOSA.

THIS very charming Orchid is a native of Madeira, but is quite hardy in England. Care should be taken to prevent the plants becoming very wet in winter. If planted in a rockery *Orchis foliosa* should have at least a depth of 12 inches of soil to grow in, and should be shaded from the midday sun. Probably the best and safest plan, however, is to plant several tubers in pans about 8 inches across, in loam and leaf soil; these should be placed in a cold frame during the winter, and in the spring the pans may be plunged in the rockery or taken to the conservatory as circumstances require. In either case they are exceedingly attractive and handsome. The leaves are long and bright shining green, the spikes growing 1½ to 2½ feet high, with 6 to 8 inches at the apex crowded with purplish lilac flowers. A batch of *O. foliosa* form an attraction in the greenhouse at Kew at present, and several good pans may be seen in the Royal Horticultural Society's Gardens at Chiswick.—C. K.

NEW AND OLD ORCHIDS.

THERE is one regrettable feature in the craze for new Orchids, and this is the fact that it leads to the neglect of older kinds. It is notorious that many of the most beautiful and valuable of Orchids are a source of very little profit to dealers owing to amateurs perpetually thirsting for something new. The latter carry this desire for novelty to such an extent that they will hardly look at anything that is not entirely fresh, reserving all their attention and admiration for every stranger that happens to be introduced, even if it is unflowered and its merits a matter of conjecture. As we must in the main rely upon old friends, whether they be fruits, vegetables, or Orchids, until the new have proved themselves to be better, it would be well if those who have not yet yielded to the fascinations of novelty-hunting would take care to have something reliable with which to fill their houses. When they have made sure of a reliable collection will be the time to look about them for new things, and if the latter fail then they will have something to fall back upon.—P.

CALANTHE VEITCHI.

THIS is one of the most useful winter flowering plants that it is possible to take in hand, and when we consider how few are grown in private gardens where flowers are required during the months that *Calanthes* are in bloom it is a matter for wonder. It might be inferred from this remark that I am unaware how much attention is paid to it in some gardens, where its value is known and appreciated, but I am speaking broadly of the hundreds of small gardens where not one can be found. Even if there be plants they are in such a wretched condition that such a thing as a presentable flower spike is out of the question. Gardeners should not go on in ignorance of the quality and beauty of this simply grown Orchid. Anyone with a Cucumber house, a Melon house, or a plant stove can have satisfactory examples of *Calanthe Veitchi*. The present is the time when the plants need attention to induce the new bulbs to swell to their fullest extent, and upon these the quality of the future flower spikes depends. Abundance of weak tepid liquid manure is what this *Calanthe* enjoys. Where the pots are not too full of soil cow manure, not too much decomposed (or the goodness will have left it), laid on half an inch thick, is one of the best stimulants it is possible to give. A few of our plants showed signs of a paleness in the foliage a fortnight since, but a mulching as described quickly gave the wonted colour back to the leaves.—E. M.

DENDROBIUM TRANSPARENS AND VAR. SOUVENIR D'ALEC.

Dendrobium transparens is supposed to have been discovered by Dr. Wallich in the Himalayan valleys, and later on in 1852 by Thomas Lobb, one of the collectors for Messrs. Veitch and

Son of Exeter. It blooms in April and May; the flowers are about 1½ inch across, and borne in pairs on terete stems about a foot long. The petals are white, tipped with mauve; sepals the same colour as the petals; the lip is oblong and rounded, white with deep purple stains, and mauve at the apex. The flowers are curiously transparent. This species belongs to the well-represented *Fasciculata* section of the genus *Dendrobium*. It is deciduous, and thrives with the same treatment generally given to the well-known *D. nobile*.

D. transparens, var. *Souvenir d'Alec*, was exhibited at the Drill Hall, Westminster, on Tuesday, June 21st, 1892, and is a pure white variety of *D. transparens*. It was exhibited by Mr. Hamilton, gardener to Hamar Bass, Esq., Byrkley, Burton-on-Trent, in whose collection it flowered for the first time, and it is the only plant at present known of this lovely variety. We understand from Mr. Hamilton, the gardener at Byrkley, that the plant was



FIG. 10.—DENDROBIUM TRANSPARENS VAR. SOUVENIR D'ALEC.

purchased from Messrs. F. Sander & Co., St. Albans, who imported it, among other things, from the East Indies. Handsome varieties are often to be found among imported Orchids, and this is certainly one of the best that has appeared of late. It is named in memory of a son of H. Bass, Esq., and was given an award of merit by the Royal Horticultural Society. The flowers are pure white, the stems greyish, and the growth is similar to that of the parent.—C. K.

HOEING VERSUS MULCHING.

EVEN in our strong land I find that crops of any kind, vegetable or otherwise, are much improved by mulchings of light stable manure, Peas especially being benefited by such treatment. Our Gooseberry crop, which has never failed us yet, has shown the

benefit derived from mulching this season. Owing to the extremely dry weather experienced at the time the fruit had arrived at bottling size the foliage was attacked by red spider, which caused the swelling of the fruit to come to a standstill. Having some partly decayed manure at hand we mulched all the trees, afterwards giving them a good soaking at the roots with clear water and a vigorous washing with clean water applied by the garden engine. A change for the better was quickly apparent, and the crop is better now than at any period within the last thirteen years, although the Gooseberry crop has always been considered a remarkable one. My object in laying on the manure before watering the trees was that the good qualities of it might be washed down to the roots of the trees, thereby benefiting them much more than if the moisture was allowed to evaporate into the air. The manure afterwards conserved the moisture in the soil. This is an instance of a case in which I do not think that stirring the surface soil with the hoe would have had nearly so beneficial an effect as the mulching. Stirring the soil between the rows of young crops, such as Onions, is no doubt good where it is not wise to mulch, but the treatment best accorded to such crops as Peas and Beans is quite another question.

In my opinion the two methods are wide apart, both being good in their way. Who would think of mulching such crops as Carrots, Parsnips, or Beet? Very often the last named is growing in land already too rich, and to mulch such a crop with manure would be making matters worse. In going round various gardens and allotments this summer, many situated in a chalky district where soil is thin before the solid chalk bed is reached, it was pitiful to see the lines of Peas turning yellow long before they had reached the flowering stage owing to the lengthened drought. Surely in such instances as this a mulching of manure, grass, or even straw, would have done more towards saving the crop than all the hoeing in existence.

Light soils are not nearly so much benefited by frequent stirrings of the surface as those which are heavy, for the reason that they do not crack nearly so much as soil which is naturally retentive; these instead of crumbling by the effect of drought crack through contraction. Light soil does not contract in the same proportion as does that which is heavy.—E. M.

THE OLD FLOWERS AND THE NEW.

CARNATIONS AND STREPTOCARPUS AT CHELSEA.

THERE is often hopefulness in contrasts. In comparing the early stage of one plant with the developed beauty of another, belief is prompted that what has come about with the one is not impossible with the other. Taking this view, it is interesting to place old flowers and new mentally side by side, and let the realities of the first give faith in the possibilities of the second. In the great Chelsea nurseries of Messrs. J. Veitch & Sons there are now two special features, the one under glass, the other in the open air, the one old, the other new, and it is impossible to go from the former to the latter without the comparison indicated suggesting itself. The Carnation is an old friend, worked up to its present high standard of beauty and usefulness by many years of patient work; the Streptocarpus in its hybrid forms is new. We value the one as a friend of proved worth and steadfastness; we look on the other hopefully, as one that will do us good service when it has spent its novitiate under the skilled hands of the hybridiser.

It would be unwise to suggest that high water mark has yet been reached with Carnations and Picotees. Each year still brings its quota of novelties. But we must now be content with the steadiest of progress, for we are very far on the road. The material has been acquired, and hardly admits of more than a polishing-up. That this is being steadily practised we see in looking over a good collection, such as that in the Chelsea nurseries. There are old favourites in plenty, but there is also a sprinkling of something fresh to excite comment. Moreover, the lesson is to be learnt that many varieties possess a double usefulness. Take for example Winter Cheer, which, by the way, is admirably named. It is so largely grown under glass and so widely esteemed for blooming during the dull months of the year that it is unnecessary to enlarge on that phase of its usefulness, but it may be assumed that many who so cultivate it are not aware of its great value for flower garden decoration. This, however, should be known. In a very large and comprehensive collection it stands out conspicuously as one of the very best bedders, and invariably arrests attention. It is dwarf, compact, very free, and noteworthy for its brightness in colour, which some might call scarlet, others crimson, but which is perhaps best described as a mixture of both. Border Maid is another to which the same general remarks apply. It is a charming variety, to be sent out this year. In habit it is dwarf and compact, in floriferousness it leaves little to be desired. The flowers are well formed, deep rose in colour, with a lighter shade on the edge of the petals, and very sweet; moreover, it is one of the perpetual-blooming race. It is more than likely that it will prove useful for pots; it is certainly excellent out of doors.

Mrs. Frank Watts is pretty well known by this time, having taken a high position among the whites. It might almost be said that, if compelled to select one as the best, this would be the chosen flower, although few would care to disparage such beautiful and well tried varieties as W. P. Milner and Mrs. Donaldson. In Mrs. Frank Watts we have a combination of desirable qualities—good habit, freedom of blooming, neat form of flower, and purity of colour. L. H. Pomeroy is a fine dark Clove-like bloom of good form and a useful winter variety. Magnum Bonum is not new, but it is very free, and is still one of the best scarlets. Rose Celestial, too, is not yet surpassed in its colour, and it has beautiful form to recommend it. Dr. Parke is another good rose, being a wonderful bloomer and of good form. William Toby is velvety purple, very dark. Alice Ayres can hardly be termed a self, as the white ground is lightly flaked with rose. It is a charming variety, and very valuable for cutting. Joe Willott remains one of the most brilliant reds. Beauty of Foxhall is one of the best of the purples, having a glowing magenta tinge that makes it wonderfully bright. Professor Goodhart may be classed as a Fancy rather than as a Picotee. It is a yellow ground with crimson edge, but somewhat splashed and flaked. Almira, a yellow ground Fancy of fine form, is a beautiful variety. Dorothy, buff ground with deep rose flakes, is also charming. Ruby (Turner), is a brilliant ruby red, with a good petal and admirable form. Queen of Bedders (Turner), light scarlet, good shape and fimbriated, is very free and delightful for cutting. Cara Roma is a rich purple, very large and good. Germania is well known as a splendid yellow, and there is a beautiful bed of it. Grant Allen much resembles Brilliant, but is superior in not splitting the pod. It is rich rosy crimson. Maggie Laurie is a charming little rosy pink fimbriated bloom. Leander is a bright yellow that stands the wet wonderfully well, but spindles up 3 feet or more. John Barnett is a finely formed bloom of a very rich rose shade; an old favourite. Crimson Pet is splendid in colour, a rich velvety crimson, but inclined to be small. Mrs. Reynolds Hole is prominent, and so are the crimson and blush Cloves; while Amy Herbert, rich rose, a fine full flower, is also noteworthy.

The Picotees and florists' Carnations, flaked and bizarres, are a very strong contingent, all the best varieties being represented, and saying this obviates the necessity of merely multiplying names. It is satisfactory to note that severe thinning of the buds is not practised, so that the true qualities of the varieties as bedders is clearly seen. The plants are admirably grown, and are grouped in a series of beds near the Fulham Road entrance to the nursery, where they make a beautiful display.

From the old flowers we turn to the new, and it is quickly perceived that the possibilities in Streptocarpus are already removed from the ground of mere speculation to something practical and tangible. In the able hands of Mr. John Heal marked progress has been made, and nothing will be more interesting than to watch future developments in this already valuable and beautiful flower. There is perceptible advance in size of bloom for one thing, and there will no doubt be further improvement in this respect every season. That it will be at the expense of free flowering there is little fear, for Messrs. Veitch's hybridiser is as fully alive as any of those who may examine and criticise his handiwork to the importance of avoiding any such sacrifice. So far as regards bulk of bloom the Streptocarpus may never be got to the Gloxinia stage, but it will not matter if they stop short of that so long as their floriferousness is unimpaired. Diversity of colour, too, is increasing apace. We now observe violet, purple, deep mauve, rosy mauve, lilac, pure white, white with purple streaks in the throat, and—most important of all perhaps as marking an approach to the coveted scarlet—a bright rosy purple. There seems every reason to hope that red flowers will be in due time secured, although it may not be the work of a season or two. Be that as it may, a most valuable class is being rapidly evolved, and in the face of what has already been done we may rest confident that the future has something bright in store.

It will be proof enough of the accommodating nature and easy culture of the Streptocarpus to indicate the conditions under which they are growing at Chelsea. They are planted out in a long range of pits, the soil used being a mixture of peat, loam, and sand. There are upwards of 2000 of them, and they are brought well up to the glass, a constant current of air passing over them. The seed was sown in December, 1891, and the plants are now full of bloom. With the decaying flowers picked off to prevent seeding they would bloom continuously into October, for they keep throwing up fresh flowers, and after a winter's rest would bloom profusely again in March. A batch of plants that were in full bloom at the Temple Show had the flower stems cut down two or three weeks ago, and are again pushing up abundance of buds; in a short time they will be a mass of bloom once more. There is very little doubt that by sowing successions plants could be had in flower every month in the year. Their safety in winter does not demand a high temperature; on the contrary, 40° to 45° is quite sufficient to keep them in health, and as a proof of this it may be mentioned that some of the Chelsea plants had the foliage cut by frost last winter, but still bloomed. When grown under cool conditions they are not subject to insects.

In the face of the many good qualities hybrid Streptocarpus possess—beautiful and diversified flowers, handsome leafage, ease of culture, and continuity of flowering—it is not surprising to hear that their popularity is increasing by leaps and bounds. It can only be a matter of time for the new flowers to prove as valuable as the old.—W. P. W.



LARGE AND SMALL ROSE GROWERS.

REMEMBERING my correspondence of last year as to the desirability that each exhibitor should show only according to the number of plants he grows, it is pleasant to read that through the influence of Mr. Graham and Mr. Bateman their efforts and exertions have had such satisfactory results, and they, with others who assisted in so desirable an end, are entitled to the thanks of all the small Rose growing exhibitors (myself among the number) for surmounting the difficulties attending their task, and I now hope the affiliated societies will follow the good example set, and with the same satisfactory results.—AN EXHIBITOR.

NOTES ON THE NATIONAL SOCIETY'S SHOW AT CHESTER.

IN a climate so variable as ours, and in a month which has of late years shown an unpleasant tendency to wear more the character of April than of its own traditional bright warm suns, everything that depends on weather is doomed to experience vicissitudes, and consequently the National Rose Society, which holds its annual Provincial Exhibition in the month of July, has in its record of fifteen years to tell of bright and fine days, as at Hereford last year; but it has also had very frequently to tell of leaden skies, and damp, and unpleasant experiences. I am convinced that amongst our records the day at Chester will ever hold a prominent place for the utterly unpleasant and miserable state in which the members found themselves. From morning until late in the evening there was an unceasing downpour of rain, and as the Exhibition was held in a tent in a field where the grass was long, it may be readily imagined in what discomfort exhibitors found themselves. It was not possible to set up the flowers (as is generally done) in the open under the lee of the tent, all had to be done under cover, and it may consequently be imagined that there was no little difficulty. Thursday, the day originally fixed, was fine, and, as is generally the case when dates are changed, it turned out that it would have been better to have adhered to the original day, had that been possible, but apparently that could not be, and as in all such matters the Society submits to the guidance of the local authorities, the day was changed.

Having thus looked at the disagreeable side of the picture let us look at the Exhibition from the Rose lover's point of view; and here I have no hesitation in saying that it was the grandest Exhibition of the year, and I think also the very best both in extent and quality that the Society has ever held. It is of course always difficult to carry in one's mind the shows of former years, but I think my verdict is a correct one. When the season was about to open I had various letters on the subject, and my own opinion was not a very favourable one, and also even now it is very difficult to say; but this I venture to affirm, that Roses have been shown of such surpassing excellence that it would be hard indeed to say it was not a good Rose year. As usual some flowers were shown of such a quality as perhaps they had never been seen before. Ethel Brownlow, which had been so well shown at Hereford, was also exhibited in great beauty at Chester, and will certainly take a high position in its beautiful class, which it need hardly be said was seen in great perfection. It is a good Tea year, and when we have contests between such redoubtable growers as the Rev. F. R. Burnside, Mr. Hill Gray, and others amongst amateurs, and Mr. George Prince, the two Cants, and Messrs. Paul & Son amongst nurserymen, it may safely be concluded that the battle was pretty fierce and the contest very sharp. Madame Cusin was shown in excellent condition, and so also was Marie Van Houtte, some of the blooms with the exquisite lemon shading, and the pink edge to their petals were most lovely. Comtesse de Nadaillac also asserted herself, although I question whether in point of colour it was equal to what I have seen in other years from the same growers; neither did Anna Ollivier stand out so prominently, although it was very fine in Mr. Burnside's stand, who gets a colour into it one does not see elsewhere.

Comte Raimbaud as shown by the Rev. J. H. Pemberton was very fine, meriting the distinction it obtained of the National Rose Society's medal, while the Gustave Piganeau for which Mr. Merryweather obtained the like award was a splendid flower; but there was one flower in the same stand to which I should have been inclined to give the award, a glorious bloom of Gloire de Margottin. It was the most brilliant coloured Rose I ever saw, as near scarlet as anything could well be. Hitherto we have looked upon this flower

more in the light of a garden Rose than of an exhibition flower, but here it was fully up to this character, being full, deep, and large petalled, while the colour was magnificent. A stand of twelve of Gustave Piganeau, for which Messrs. Merryweather & Son obtained the first prize for the best twelve dark Roses of one sort, was very fine; but in truth there were so many grand blooms that it is difficult to particularise. One cannot omit, however, Her Majesty as shown by Mr. Frank Cant. Never has this Rose been shown to such perfection. It was large without being coarse, and its exquisite shade of colour made it very taking, but then one wonders how many plants there were and how many of the blooms were of this standard of merit.

There were not many seedlings exhibited, but they were of great interest, and it was felt by a good many that it was a great pity that the rules of the Society did not permit awards of first-class certificates to those varieties which were not deemed worthy of a gold medal. This coveted prize was awarded to Messrs. Alex. Dickson & Son of Newtownards, the raisers of Earl of Dufferin, Margaret Dickson, and other fine flowers, for a Hybrid Tea. Its mother parent was La France, which the late Mr. Bennett used to say would never bear seed. It is of a very beautiful shade of red, very free flowering, and likely to be a valuable garden Rose. It is devoid of that magenta tint which makes many Hybrid Teas most objectionable. There were two remarkable sports of Heinrich Schultheis exhibited by Messrs. Harkness & Son of Bedale, and curiously enough both off the same branch. One was an excellent white, and the other a beautiful striped flower, not like that dingy abortion Pride of Reigate, but more in the style of Village Maid, or what is ordinarily called York and Lancaster. This will, I have no doubt, be an effective garden flower if it remains constant. Mr. Swales had also a pretty Rose, of which we may, perhaps, hear more some day.

Everything that could be done was carried out by those who had undertaken to manage the Show—the Rev. Lionel Garnett, Mr. Laurence Garnett, and Mr. George A. Dickson; while the practical details were carried out by Mr. Taylor of Hoole Hall, with whom I had a pleasant chat about Auriculas, and Mr. Earlham of Christleton, while Mr. Jeffery carried out the Secretary's part efficiently under considerable difficulties. It would be ungenerous to close these brief notes without alluding to the kindness of the Mayor, who not only allowed the Show to be held in his beautiful grounds, but entertained the Judges and exhibitors at luncheon in his own house. In fact, as I have said, there was only one thing to be deplored, and that was the weather, but for that all would have gone merry as a marriage bell.—D., Deal.

STRAWBERRIES IN SCOTLAND.

Now that we are in the middle of our Strawberry harvest what are the lessons to be deduced from the season so far as it has gone, and how have the different varieties succeeded? As formerly, Garibaldi ripened a few days before Noble, as early as John Ruskin and far superior to it in quality. Garibaldi is, I consider, the best all-round early Strawberry in commerce for either market or private purposes. Noble has size enough (may not that be carried too far?) flesh very coarse, flavour poor, not a good carrying berry. John Ruskin is a better fruit than Noble in all points except size. It is not required for market where Garibaldi succeeds; in private use it will make an agreeable variety. Sir J. Paxton does not do in the heavy soil here. It grows well but produces few fruit.

Several others which I have tried will neither grow nor produce fruit—viz., Hammonia, Lord Napier, McMahon, President Delacour, Samuel Bradley, Sir C. Napier, and Triomphe de Paris. Waterloo is a good late fruit, but shy in forming crowns and runners; rather dark in colour for a market fruit. Of Marguerite I have grown a few for several years, but will not extend it. This and Noble, one of the retail dealers has told me not to increase because the fruit is so soft and the quality poor. President is our mainstay midseason variety, but this season the crop is poor both in quantity and quality. The cold, wet, stormy weather we experienced while the plants were in bloom has told very much upon the produce. Frogmore Late Pine is the best late variety I have tried, but is rather acid. I am testing several seedlings which, if any of them are prolific enough, will replace it for quality. The one I have sent for your opinion comes in between Frogmore Late Pine and President. Altogether this is the poorest Strawberry season I have had, the bloom appears fine but the crop is more than one-third short.—G. M. DOUGALL, *Ravenna Cottage, Stirling.*

[No Strawberries accompanied the communication.]

QUICK GRAPE GROWING.

I AM sorry to say we cannot get Mr. Gilchrist to come forward and open out the discussion upon the ninety-day Grape growing system. As amateurs are taking the matter up, and others not connected with the Sunderland Gardeners' Association, and as I know some gardeners have been told that they are burning coals and coke in

waste, and severely criticised by their employers, I enclose a letter which I sent to a local paper, the "Sunderland Herald and Daily Post." If you will please publish it in the *Journal of Horticulture* it may be the means of getting the opinion of gardeners on the subject. The following is the letter to which I invite attention:—

"On June 13th I noticed a letter in your paper upon the above subject, signed by W. Clark, as a member of the Sunderland and District Gardeners' Association. Like Mr. Clark I have had over thirty years' practical experience in Grape culture, and grown the fruit under many varying conditions, but have never been able to accomplish such a feat as to procure ripe Grapes in ninety days from the time of starting the Vines. I cannot believe without some strong demonstration that any gardener ever succeeded in such a feat, particularly with Vines planted out as I understand the ones under Mr. Gilchrist's charge are. I can assure Mr. Clark it is not the fault of the practical Grape growers of the Gardeners' Association that the subject has been hitherto kept so quiet. I cannot wonder at noticing a letter in your paper on the 18th July signed 'Amateur' upon the subject, as I know myself that gardeners in the district have been closely questioned upon it by their employers. Regarding the letter which appeared in your paper on the 19th from Mr. T. W. Bolam, I can assure him it is not the intention of the practical Grape growers of the Gardeners' Society to remain silent. If Mr. Richardson is able to give 'Amateur' the information he desires I am surprised the members of the Gardeners' Society should have been kept in the dark so long. I trust practical gardeners outside the Society will take the matter up and give their opinion upon the subject, as it appears to be of great importance, not only in this district, but to many others, as I have received letters from far and near upon it. I would ask Mr. Gilchrist if he would be kind enough to answer the following questions, which appear to be the main points:—

- "1, Time the Vines were started, and temperature.
- "2, Temperature after leaf expansion to flowering.
- "3, Date of flowering and temperature.
- "4, Date of colouring and temperature up to date of cutting.
- "5, Could Grapes be cut from day to day in a fit state for the table after the bunch cut on the 5th of May?—R. HONEY, *The Briery, Sunderland.*"

ROYAL HORTICULTURAL SOCIETY.

JULY 26TH.

RARELY has the Drill Hall presented such a gay appearance as it did on Tuesday last. Apart from the Carnation Show the exhibits were numerous and diversified. Insectivorous plants were plentiful, as also were hardy flowers and greenhouse and stove plants. Orchids were not so numerous as usual.

FRUIT COMMITTEE.—Present: P. Crowley, Esq. (in the chair), Dr. Hogg, and Messrs. W. Warren, G. T. Miles, A. Dean, W. Bates, J. Willard, G. H. Sage, A. H. Pearson, J. Hudson, F. Q. Lane, H. Balderson, G. Norman, J. Smith, W. H. Divers, T. Francis Rivers, R. D. Blackmore, H. Weir, W. Wilks, H. J. Pearson, J. Cheal, T. J. Saltmarsh.

Fruit was plentiful and well shown. Messrs. J. Veitch & Sons had a large and representative collection of Gooseberries comprising some choice varieties. The most notable kinds were Lord Derby, Dan's Mistake, Surprise, Highlander, Early Green Hair, Stockwell, and Fearless. Currants and Cherries were also shown by Messrs. Veitch, and a silver Banksian medal was recommended. Mr. Wythes had seedling Melons, as also did Mr. G. H. Sage, gardener to Earl Dysart, Ham House, Richmond. The latter was adjudged an award of merit for Melon Emerald Gem, a small scarlet-fleshed variety from America, and said to be very free fruiting. W. A. South, Esq., Neasdon, N.W., showed a dish of Carter's Perfection Tomatoes, also the Peach Tomato. A splendid collection of Peaches and Cherries came from Messrs. T. Rivers & Son, for which a silver-gilt medal was recommended. Nectarine Early Rivers was awarded a first-class certificate. Mr. R. Gilbert, Burghley sent some Royal Sovereign Tomatoes of a sensational size and weight. Six fruits weighed 10½ lbs. An award of merit was adjudged this exhibit. Mr. W. H. Divers, Ketton Hall, staged a collection of well-grown Peaches (silver Banksian medal), while Peaches and Melons were shown by Mr. Miller, gardener to Lord Foley, Ruxley Lodge, Esher. A collection of Melons and Peaches from the Royal Gardens, Frogmore, was staged by Mr. Owen Thomas. A bronze medal was recommended. Messrs. J. Hammond & Sons, Carlisle, showed fruiting branches of a Black Currant named "W. E. Gladstone."

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair), Messrs. O. Thomas, H. Herbst, B. Wynne, C. T. Bause, C. Ross, Norman Davis, J. Laing, and W. Watson.

The exhibits placed before this Committee were varied and of an interesting character. Messrs. Pitcher & Manda, Hextable, Swanley, Kent, sent a large collection of Sarracenias, Droseras, and other insectivorous plants (silver-gilt medal). Conspicuous amongst other species were S. Drummondii, S. Wilsoni, S. Nelsoni, and S. Mitchelliana. Hardy flowers were also shown by the same firm. Messrs. Sutton and Sons, Reading, had a beautiful display of their prize strain Gloxinias. The pure white variety Her Majesty, Duke of York, and a rich purple named Invincible Purple were very fine. Messrs. Sutton also staged a number of bunches of a new and interesting annual named Nemesis. The flowers of this embrace colours of various shades, from a creamy yellow to a rich crimson. It is a pretty flower, and will undoubtedly become popular. Plants of a dwarf Tuberous Begonia named Meteor

were also shown by the same firm. This was adjudged an award of merit, and is described elsewhere. Mr. Henry Brownhill, Mayfield Nursery, Sale, staged four bunches of a white Pink named Snowflake—a semi-double variety, useful for cutting. Mr. T. S. Ware, Tottenham, had blooms of Tuberous Begonias, amongst which Beauty of Belgrove (a charming pink double variety), Princess May, and Baronne de St. Didias were conspicuous. A splendid collection of Carnations, tastefully set up in bunches with their own foliage, came from Messrs. J. Veitch & Sons, Chelsea. The flowers were fresh, bright, and perfect in form. They comprise most of the varieties described elsewhere in the present issue. Messrs. Veitch also had Sarracenias in pans, and a box of their hybrid Rhododendron blooms, fresh and charming as usual. A silver-gilt medal was recommended. An interesting collection of Sarracenias was also staged by Messrs. B. S. Williams & Son. Mr. Eckford, Wem, Salop, had a number of Sweet Peas, the flowers being exceedingly bright and fragrant. Tuberous Begonia blooms, tastefully set up with Asparagus and Maidenhair Ferns, were staged by Messrs. Cannell & Sons, Swanley, the flowers being notable for their size and colour (bronze medal). Mr. Riding, Chingford, was accorded a vote of thanks for Gloxinia blooms, these being very fine.

Messrs. J. Laing & Sons, Forest Hill, staged a collection of Carnations, Picotees and Pentstemons, also a large collection of Caladiums, and a basket of a Tuberous Begonia named Scented Rose. A silver medal was recommended. Mr. G. Wythes, Syon House, showed bunches of Clethra arborea. Roses, Carnations, and hardy herbaceous flowers were shown in quantity by Messrs. G. Paul & Son, Cheshunt, this contribution making a bright display, meriting the silver-gilt medal recommended. Mrs. C. Jones (gardener, Mr. W. Barton) had a collection of Carnations, comprising twenty varieties grown in an open border in Kensington. The flowers were very fresh and bright. Sweet Peas, Shirley Poppies, and Carnations were shown by Mr. W. Wells, Earlswood, and a vote of thanks accorded. Martin R. Smith, Esq., Hayes Common (gardener, Mr. Blake), staged a group of Carnations in pots and a large number of cut blooms, for which a silver medal was recommended. Several varieties were adjudged awards of merit. Blooms of a new hybrid Eucharis named E. Clibrani were shown by Messrs. W. Clibran & Sons, Altrincham. The flowers are pure white, erect, and borne in clusters. Messrs. J. Green & Nephew, Victoria Street, E.C., showed a number of flower glasses and bowls of various shapes.

ORCHID COMMITTEE.—Present: H. Veitch, Esq. (in the chair); Messrs. J. O'Brien, J. Jacques, W. H. White, J. Douglas, E. Moon, C. Pitcher, T. Bond, T. B. Heywood, H. Ballantine, H. M. Pollett, A. H. Smea, S. Coatsworth, and E. Hill.

Orchids, if not numerous, comprised several interesting things. A small group was staged by G. R. Le Doux, Esq., Langton House, East Molesey, containing *Miltonia vexillarium* Klabrochorum, *Oncidium trifurcatum*, and others of a notable character. F. Wigan, Esq., East Sheen (gardener, Mr. W. H. Young), was awarded a cultural commendation for a fine plant of *Platychnis filiformis*. Mr. P. McArthur, London Nursery, Maida Vale, showed *Cypripedium superbiens*, and Welbore S. Ellis, Esq., Hazelbourne, Boxhill, Dorking, staged a plant of *Cattleya Rex*, a beautiful form, but scarcely so good as was anticipated. This is referred to below, it being awarded a first-class certificate. Norman C. Cookson, Esq., Wylam-on-Tyne (gardener, Mr. Murray), showed several fine *Cypripediums*, which are referred to below. A large spike of *Saccolabium Blumei* came from the Marquis of Salisbury, Hatfield House (gardener, Mr. Norman), and a fine spray of *Cattleya gigas* Sanderiana, from C. J. Lucas, Esq., Warnham Court, Horsham. Messrs. H. Low & Co. sent a small collection, which included a small piece of *Cattleya Schilleriana* Lowiana. This is an interesting flower, and was awarded a first-class certificate. H. M. Pollett, Esq., Fernside, Bickley (gardener, Mr. T. Paterson), also showed a plant of *Cattleya Rex*, which was likewise awarded a first-class certificate. Messrs. F. Sander & Co., St. Albans, staged a small group, comprising *Cypripediums*, *Odontoglossums*, and *Cattleya Gaskelliana alba*, the latter a delightful white form.

CERTIFICATES AND AWARDS.

Cattleya Rex (Welbore S. Ellis).—The specimen shown had one spathe carrying three flowers. The petals and sepals are creamy white; the lip yellowish at the base, similarly veined in the throat, other portion rich purplish crimson, heavily fimbriated (first-class certificate).

Cattleya Rex (H. M. Pollett).—This specimen was larger than that exhibited by Mr. Ellis, and carrying four flowers on one spike. The flowers were similar in colour and form to that already described (first-class certificate).

Cypripedium Youngianum superbum (Norman C. Cookson, Esq.).—This is a cross between C. Veitchi and C. laevigatum superbum. The dorsal sepal is nearly white, veined with green and brown. The petals droop, and are covered with rich reddish brown spots, and have a hirsute margin. The lip is large and a bronze green colour (award of merit).

Cattleya Schilleriana Lowiana (Hugh Low & Co.).—The plant exhibited was bearing two flowers; the petals and sepals are green, covered with brown spots; the lip a pale purple streaked with white and a slight tinge of yellow in the throat (first-class certificate).

Cypripedium Bryan, Cookson's var. (N. C. Cookson).—This is a hybrid between C. laevigatum and C. Argus. The dorsal sepal is a greenish white, blotched and veined with brown, the petals being covered with heavy chocolate spots and having a hirsute margin. The lip bronze-green and veined with a brighter colour (award of merit).

Nemisia Strumosa Suttoni (Sutton & Sons).—An exceedingly pretty annual with flowers of various colours, from nearly white to a rich crimson, borne in clusters (first-class certificate.)

Aster diplostephioides (W. Marshall).—A charming hardy Aster with large flowers. A full description will be found on page 79 of this issue (first-class certificate).

Carnation Oriflam (J. Douglas).—A beautiful variety with bright scarlet flowers. It is evidently a strong grower, free bloomer, and altogether an excellent sort (award of merit).

Carnation Marnie Murray (Martin Smith).—A grand variety with full flowers, brick red in colour (award of merit).

Carnation Miss Constance Graham (Martin Smith).—A crimson flaked variety of considerable value (award of merit).

Carnation The Pasha (Martin Smith).—A beautiful salmon pink variety, the blooms being large and very double.

Carnation Mrs. Harris (Martin Smith).—A charming flaked variety, large blooms (award of merit).

Carnation Horace Skimpole (Martin Smith).—A strong grower with salmon coloured flowers (award of merit).

Begonia Meteor (Sutton & Sons).—A dwarf growing variety eminently adapted for bedding. The flowers are single, salmon colour, and erect. The leaves are small, dark bronze veined with green, under side a reddish shade (award of merit).

Gloxinia Her Majesty (Sutton & Sons).—A pure white variety, already described in these pages (award of merit).

Begonia Princess May (T. S. Ware).—A double variety, with white flowers and creamy centre (award of merit).

Begonia Baronne de St. Didies (T. S. Ware).—A beautiful double pale yellow variety (award of merit).

Crocus aurea imperialis (W. Marshall).—An attractive plant, with small orange yellow flowers borne on slender spikes (award of merit).

Sweet Pea Lord Beaconsfield (H. Eckford).—A light coloured variety tinged with pink (award of merit).

SCIENTIFIC COMMITTEE.—JULY 12TH.—Present: Dr. M. T. Masters (in the chair), the Rev. W. Wilks, Dr. Müller, Prof. Church, and Rev. G. Henslow, Hon. Sec.; visitors—Prof. Emory Smith of the Leland Stanford Jr. University, California, and Dr. Kränzlin of Berlin.

Termes at La Rochelle.—The Secretary read a letter received from Mr. Warburton, giving further details of the injuries done by *Termes lucifugus* at La Rochelle. He believes it to have been imported from S. America. He says, "It cannot now be got rid of, as it has spread too widely—not only at Rochelle, but at Rochefort, up the river Charente, and at Saintes. I am not certain as to what plants it has attacked, but *Pelargoniums* and *Dahlias* are among them. It has destroyed Vines, and any other plants it has come across, such as fruit trees and most flowers. It lives in wood principally, consequently it does damage to plants only in or near houses. As the ants can only move underground in subterranean galleries, I do not think they could do much harm in open fields, where the galleries would always be destroyed by tillage operations. The *Termes* only spreads in two ways, as far as I can ascertain—namely, by the wood in which it exists being carried to other places, and by eating its way from one house to the next. This last process is a very slow one. I do not think that the *Termes* exists in any other part of France than that part of the Charente Inférieure, extending from the entrance of the river Charente to some distance up its course, so far, in fact, as the cargoes of wood from S. America used to be carried up in ships in the last century; and at La Rochelle and Saintes, which were both great places for this import in olden times."

Tomato and Sulphate of Copper.—As another instance of the possibly injurious effects of this substance Dr. Masters mentioned that M. Cornu found that its application, though given in the prescribed quantity, proved fatal to the foliage of the Tomato. Prof. E. Smith was asked if Tomatoes and Potatoes suffered in California as here, with the same fungus, *Phytophthora infestans*. He replied that though Tomatoes are grown in 100 acre tracts there is no disease to which they are subject, though Potatoes are, if not to the same or at least to an allied form of fungus.

Calochilus.—Mr. Ware sent a spray of this Australian Orchid. It has an erect oscillating and fringed lip, the column being declinate, and the whole flower a delicate mauve colour. Dr. Kränzlin observed that it is very difficult to cultivate, as the natural conditions of its native habitat cannot easily be supplied.

Pinus sylvestris Injured.—Dr. Masters showed a drawing of a bough of this tree which he had observed at Boscombe. It had apparently been split longitudinally into three pieces. They, however, were reunited beyond the spaces injured. No cause could be assigned for the remarkable occurrence.

Dianthus Attacked by Fungus.—Rev. W. Dod sent some specimens of different species attacked with fungi. They were sent to Kew for examination and report.

Æcidium on Paris quadrifolia.—Mr. Plowright forwarded specimens with the following communication:—"During the present summer Mr. W. Thompson of Carlisle and I have been engaged in working out the life history of this *Æcidium*. The details of our work we hope shortly to publish. In the meantime it seems desirable to state briefly that we find the *Æcidium* on *Paris quadrifolia*, which occurs near Carlisle, is connected with a *Puccinia* allied to *P. sessilis*, *P. digraphidis*, and *P. Phalaridis*, which species, it will be remembered, have their *æcidiospores* on *Allium ursinum*, *Convallaria majalis*, and *Arum maculatum* respectively. The Carlisle *Puccinia* was found by us to germinate

freely from the end of April till the middle of May. Applied to the above named host plants it produced no result, but succeeded upon *Paris quadrifolia*, on which plant it gave rise to *Spermogonia* followed by *Æcidia*. The resulting *æcidiospores* were applied on June 10th to the foliage of *Phalaris arundinacea*, which in twenty days bore a *Uredo* with dark orange or reddish brown spores. Further details of our culture will be published shortly."

Cronartium ribicola.—He also sent specimens of this fungus, observing that they were gathered on July 3rd in the garden of Mr. C. J. Boyes, Oakwood House, Setch, near King's Lynn. "For several years past I have been looking out for this fungus, but until the above-named day without success. It occurred on Black, White, and Red Currant bushes in both stages—viz, *Uredo* and *Teleuto* spores. The parasite was found sparingly in two gardens adjoining Oakwood House. Several Pines of various species are growing in these gardens, but the season is too advanced for the *Peridermium* to be encountered in its perfect stage." Dr. Masters observed that this disease on *Pinus Strobus* has been known for several years, but it is only now that the fungus has been traced to its source on Currant bushes by Mr. Plowright.

Daisy, Monstrous.—Dr. Masters showed drawings of a very unusual form of flower, in which the ray florets had cohered into a campanulate cup, the styles and stigmas uniting into a column. A detailed examination with figures will shortly be published.

Tsuga Pattoniana and *T. Hookeriana*.—He also showed branches of these trees, pointing out the differences, though regarded as the same species. Prof. E. Smith remarked upon the great differences which obtain between the maritime horizontal form of *Cupressus macrocarpa* and the erect fastigate inland variety. Mr. Henslow alluded to the fact that the *Deodar*, so different from the Cedar of Lebanon in habit in this country, resembles it in its native home on the Himalayas.

Curnations Attacked by Hylemyia Grubs.—In response to the request for observations made by the Scientific Committee, "W. D." writes as follows to the *Journal of Horticulture*, July 14th, page 33:—"The earliest stage of the operations of the grub is to be seen about the early part of June, and any symptoms of decay in the main or lateral stems of the plant should be examined, when a very small yellow grub will be found, changing to a nut-brown colour as it gets older, eating out the heart of the stem, but it cannot be seen until the attacked part is cut away and examined. It also attacks the young foliage and eats its way into the 'grass' (young leaf-shoots at the base of the plants), and any indication of curling or decay should lead to immediate examination. The grub ultimately turns to a small brown chrysalis about a quarter of an inch long. The only remedy is frequently and closely searching, examining, and hand-picking."

University Horticultural Education.—Professor Emory E. Smith gave an interesting account of the new Horticultural Department of the Leland Stanford Jr. University of California. He stated that this great University, which opened the 1st of last October, was located about thirty miles from San Francisco, in the heart of one of the largest fruit districts in the world; and had a first endowment of over £4,000,000. The endowment being ample, no fees are necessary, the education being practically free, students only having to arrange for board, books, and clothes. Belonging to the University there are about 40,000 acres of rich land, about 1100 of which are already in bearing as vineyards, a considerable tract being orchard land. Immediately surrounding the University buildings there are 8000 acres of rich land. Upon this is already located one of the finest stock-breeding farms in America. Something like 1000 acres of this tract will be planted as orchard, and about 100 acres will be used for illustrative horticultural work of various kinds; 250 acres will be devoted to landscape gardening, and about 100 acres to botanical purposes. This is the first University in the world to elevate horticultural education to its true place of dignity among the arts and sciences, by making it one of the leading features of the Institution. It will be noted that in this case horticulture has been severed from agriculture, and has been made entirely independent of other departments. Regular students from any part of the world of sixteen years of age or over can enter the University by passing a satisfactory examination. There is also a provision for the entry of special students of any age or degree of proficiency, without any fee or examination, but simply upon the recommendation of the professor in charge of the department in which he desires to work.

The one idea held in view by the Department of Horticulture is to harmonise and teach simultaneously the practice and theory of horticulture, and to make the subject so attractive that many will seek this class of education, and follow horticultural industries rather than those which at present are made educationally more alluring; so that the brighter youths of the rural district who now flock to the cities will rather be drawn towards rural pursuits than city professions. It is hoped, by thus aiming at the highest possible horticultural education, to elevate horticulture into a recognised position of equality with the most dignified arts and sciences. Degrees will be given in horticulture of equivalent value to those in other departments of the University, when the students have acquired the necessary proficiency. The first degree can be obtained by students in horticulture after four years' satisfactory work. After this three years of independent work are provided, giving the student every opportunity to make original investigations and conduct experiments, as well as follow out any line of practical work; thereby enabling him to earn still higher degrees. As an illustration of what we hope to do, a class will plant say 50 acres in orchard, and the students before acquiring their first degree, will not only have budded

and grafted the trees, but will have pruned and brought them into bearing, packed the fruit and shipped it, and kept accurate accounts of their operations.

Of course, at the same time that students are carrying on their practical work in the field, regarding which they have no discretion outside the directions of the professor in charge, they will be conducting their scientific studies, such as entomology, botany, geology, ornithology, zoology, agricultural chemistry, &c. The chief branches of the department (any special one of which students may follow out as a specialty for the three years after obtaining their first degree, and all of which have to be taken in the general course) are fruit culture, fruit preservation, vegetable growing, floriculture, and landscape gardening. One feature of this system of education is that each student must at some period previous to taking his first degree, work for several weeks in one of the best nurseries, canneries, greenhouse establishments, &c., in the country, under the direction of the regular superintendents of the several establishments. This enables the student upon taking his first degree to decide which industry he may prefer to make the chief object of his three years' independent work and study. For the constant aim will be to teach the commercial aspect of every problem as thoroughly as the scientific and operative sides.

Special students who do not pass examinations will have every advantage in the class work; and while they cannot secure degrees they can earn certificates of proficiency, stating the length of time they have worked in the department, and the degree of excellence attained. We are inclined to inaugurate a system of examination quite different from that usually in vogue. The student will be required each day, or at frequent intervals throughout the terms, to give the day following the performance of certain practical or scientific operations both a written and verbal account of the work accomplished. The excellence of these reports, and the general standing of the students in their classes throughout the year, will rather determine their fitness for acquiring degrees than the old-fashioned final examination. At present there are about 520 students at the University, and in October next there will be about 1300; but in following years, when more buildings have been erected, the number will probably be more than doubled. A number of these students are entering, or preparing to enter, the horticultural department. It will be understood that the examinations in this University, and the mental attainments required of the student, are on a par with those of Oxford, in England, and it will thus be seen that a bid is made for students of first-class ability. A large number of the first horticultural authorities in America have been consulted regarding the formation of this department of horticulture, and general satisfaction was expressed at the plans under which the work is and will be carried on. The students' expenses at the University need not exceed £5 per month, the charge for board and room being £4 per month, the actual cost to the University. Students who are industriously inclined can frequently work their way, and scholarships will be offered to those showing great progress in their studies.

This, it will be understood, is a very brief and general outline of the great work in hand, as it would take too long to develop the ideas and plans in detail.

An unanimous vote of thanks was given to Professor Smith by the members of the Scientific Committee for his most interesting account.



EVENTS OF THE WEEK.—Shows continue to be plentiful. To-day (Thursday, July 28th) there are Exhibitions at Halifax, Southwell, and Salterhebble (Yorks). On Saturday, July 30th, Ripley and Southampton Exhibitions open, the latter continuing the following Monday. A three-days special Show of fruit, Carnations, and cottagers' produce opens at the International Horticultural Exhibition, Earl's Court, on Monday, August 1st. On the same day the Beddington and Carshalton Flower Show and Fête is held, and there will also be a Show at Mansfield that day. A Show and Gala will be held at Abbey Park, Leicester, on Tuesday, August 2nd. Messrs. Protheroe & Morris's customary sale of Orchids takes place at their rooms in Cheapside on Friday.

— **THE WEATHER.**—The weather in the metropolis has been of a varied character during the past few days, but generally fine. Warm and cool days have alternated, but the nights have been generally cold, in consequence of prevailing easterly winds. We hear that the Potato disease has made its appearance, but not in a virulent form.

— **GARDENING APPOINTMENT.**—Mr. Preston Altoft of Brocklesby Park Gardens, Lincolnshire, has been appointed gardener to the Dowager Countess of Yarborough, Healing Manor, near Ulceby, Lincolnshire.

— **DEATH OF MR. JOSEPH ELLAM.**—We learn with regret of the death (on the 17th inst.) in his fifty-third year of Mr. Joseph Ellam, best known, perhaps, as the raiser of the valuable Cabbage associated with his name under the designation of Ellam's Early. He was formerly gardener at Cliveden, and at the time of his death was superintendent of the Oxford University Parks.

— **BIRDS ATTACKING BEGONIAS.**—I should be glad to know if it is an unusual thing for birds to attack the buds and half-opened blooms on Tuberous Begonias outside. I have been obliged to protect the plants outside, owing to the buds being pierced and slit by what I feel certain is the birds.—T. F. E.

— **NYMPHÆA CÆRULEA.**—I recently observed this beautiful aquatic flowering in a tub under glass in Dickson's nursery at Chester. Its lovely mauve-blue flowers were charming in the extreme. If procured in a pot, and this plunged over the rim in a shallow tub of water, an unusual and beautiful feature will be added to the greenhouse.—W.

— **LOBELIA ROYAL PURPLE.**—This is one of the most striking Lobelias I have ever seen. In the neighbourhood of Winchester it is largely grown in the numerous villa gardens. If it has a fault it is its somewhat straggling habit, but for ribbon borders or for filling large beds it is very useful, and wherever planted is a striking object. The colour is very rich dark purple, with a large clean white eye. It makes little growth but produces plenty of flowers.—E. M.

— **FORGET-ME-NOTS IN FASHION.**—A Forget-me-not luncheon was given the other day by one of the bridesmaids of a prospective American bride in compliment to the latter on her approaching marriage. Forget-me-nots were arranged in the shape of hearts and true lovers' knots upon the table, and all the decorations were in the colour of the blue flowers. Each guest was provided with a cluster of the blossoms to wear. Forget-me-nots were to be the principal flowers at the wedding, and the bride presented to her bridesmaids pins in the form of the flower in blue enamel with a diamond dewdrop glistening in the centre.

— **STRAWBERRY CARDINAL.**—You recently gave me permission to allude to my experience of about twenty varieties, and in the hurry of writing this escaped my notice. Mr. Laxton sets it down as "second early," but with me there was only a few days between it and Noble, and just three days behind Scarlet Queen in the same bed; while the flavour I like immensely. It is much superior to Competitor, but the yield in weight would be about half. In fact, Competitor on a warm limestone soil with me had the largest and finest berries. Cardinal will supplant two excellent varieties under other circumstances—Sir Joseph Paxton and British Queen—with me.—W. J. MURPHY, Clonmel.

— **WALLFLOWERS FOR SPRING BEDDING.**—No time should be lost in pricking these out from the seed bed during showery weather. Allowing them to remain in the seed bed until they are drawn up weakly is not the best way to prepare the plants to withstand such winters as the last two, nor to secure a good display of bloom. Properly prepared Wallflowers should have numerous side shoots, commencing close to the soil, from each of which a stout flower spike can be expected. It is not so with those ill-grown plants which run up with one stem and exhibit no sign of side branches. If pricked out into rows 10 inches apart and 8 inches asunder ample space is afforded for running the hoe between the lines occasionally to keep the soil stirred about the plants.—E. M.

— **BOURNEMOUTH GARDENERS' IMPROVEMENT ASSOCIATION.**—The fourth annual excursion of the members took place on Wednesday, July 20th, to Broadlands Park, Romsey, the seat of the Right Hon. E. Ashley. The party, over fifty in number, journeyed by rail to Romsey, where they were met by Mr. Fowler, the head gardener, who welcomed them most heartily, and conducted them to the park. The park is a most extensive one, and contains some fine groups of trees, amongst them being some noble Cedrus deodara, C. atlantica, and C. Libani, many of which were planted by the late Lord Palmerston between seventy and eighty years ago. There are also other enormous specimens, said to be 230 years old. In the grounds also was a very fine specimen of the Maidenhair Tree. The party were next conducted through the extensive kitchen gardens, also the vineries, Peach houses, and plant houses, the whole of which reflected the greatest credit on Mr. Fowler and his assistants. Luncheon and tea were partaken of in the large Orange house, and after tea a visit was paid to the famed Romsey Abbey.

— *ARDISIA CRENULATA*.—This is a good plant for winter use; shapely and well berried plants are sold in very large quantities, especially around the holidays. It has the advantage, too, of staying in condition for a long time; it is no uncommon thing for a second crop of berries to be maturing before the first is off the plant. Well-clothed plants in 4 to 6-inch pots are the favourite size.—(*American Florist*.)

— *BANK HOLIDAY AND THE GARDENERS' ORPHAN FUND*.—The Committee of the Beddington, Carshalton, and Wallington Horticultural Society have made arrangements to have a Flower Stall for the sale of cut flowers, fruit, &c., in connection with the annual Flower Show and Fête, to be held in Carshalton Park on August Bank Holiday. The proceeds will be devoted to the above Fund. If the day is fine a great gathering is expected, and ample provisions are made for amusement and instruction. In the horticultural section a conference will be held under the auspices of the Surrey County Council, and addresses delivered by Mr. Alexander Dean and Mr. Edward Luckhurst, also by Mr. G. Gordon and Mr. J. Wright, the Judges. Carshalton is in the centre of a populous district, and can be reached in half an hour from London. Mr. G. W. Cummins, The Grange Gardens, Wallington, is the Honorary Secretary of the Society.

— *ASTER DIPLOSTEPHIOIDES*.—Without fear of contradiction this may be said to be the finest herbaceous Aster at present known. Although somewhat scarce it is by no means a new plant, being described in De Candolle's "Prodromus" for 1836 as *Heterochaeta diplostephioides*, and figured later in the "Bot. Mag.," 109, t. 6718. The flowers are about 3 inches in diameter, borne singly on simple stems 15 to 18 inches high. There are usually two series of ray florets. The ligules, over an inch long, are a pretty bluish purple; the unexpanded disk florets are deep purple, and the outer expanded ones showing their anthers, form a deep yellowish ring, making it altogether a lovely flower. Plants have been raised at Kew from seed sent from Sikkim, and a plant now flowering in the Royal Horticultural Society's Garden at Chiswick was received from the Royal Gardens. The light soil at Kew and Chiswick seems to suit this Aster very well. The Floral Committee when visiting Chiswick lately awarded *A. diplostephioides* a first-class certificate.—*QRIOS*.

— "PARAGUAYAN TEA."—As the authorities of Kew have established a very popular Tea house, near the Chinese pagoda, in their beautiful gardens, there seems no reason why they should not introduce "Paraguayan Tea" to the notice of the British Tea drinker. In the new number of the "Kew Bulletin" there are some interesting particulars of this important shrub, which is extensively used by the entire population of South America. Strictly speaking it is not a Tea plant, but a species of the Paraguayan Ilex; but the active principle in its leaves is caffeine, identical with that which is found in Tea and Coffee. Though closely allied with Coffee, it is stated to be slower in yielding up its principles to boiling water. In preparing it the leaves are scorchd and dried while still attached to the branches brought in by the collectors. They are then beaten, separated, coarsely ground by rude mills, and packed in skins and leather bags. The leaves are infused in small teapots, and the Tea is sucked with a bombilla or tube with wire network or perforations at the bottom. Specimens of the shrub have long been in cultivation at Kew.

— *TECHNICAL EDUCATION IN HORTICULTURE*.—During the afternoon of the 20th inst., at the Caterham Flower Show, a very interesting function was discharged by Mr. Halsey, J.P., Chairman of the Technical Education Committee of the Surrey County Council. Mr. Halsey having been invited to address a meeting of exhibitors and others in the Show tent. The particular duty which gave him real pleasure was the presentation of the medals awarded by the Royal Horticultural Society in connection with a recent examination on the subjects of the horticultural lectures delivered under the management of Mr. J. Wright, of the *Journal of Horticulture*, in the county, and which examination was conducted by the Royal Horticultural Society. These medals were awarded to Mr. Morrell, of Carshalton, who received the largest number of marks in one grade, and Mr. Walter Smith, of Henley, who occupied the highest position in the other grade. Both these gentlemen are elementary school teachers, and exhibited in their papers very advanced knowledge in horticulture. Some disappointment was shown that the medals were only of bronze, as certainly very much more valuable ones were looked for. However, the honours remain to these gentlemen, even though the rewards were so comparatively inefficient.—*A. D.*

— *ARISTOLÓCHIA GIGAS*, *Lind.*—W. B. Latham, Curator, Botanical Gardens, Edgbaston, Birmingham, writes:—"This, one of the most marvellous flowers of the vegetable world, is now flowering here. I have just taken the measurement of a flower which may be interesting to the readers of the *Journal of Horticulture*. It is as follows:—Flowers 14 inches across (in position), 19 inches long, tail to flower $37\frac{1}{2}$ inches, entire length of flower from perfoliated bract at the end of the germen to the end of tail 60 inches. The flower is drooping, bent back like a syphon, and has been likened to a pelican, the resemblance being seen to advantage in a bud state. The centre of the flower is a black purple with prominent veins radiating to the margin, mottled throughout with purple on a white ground. We are indebted to the authorities of the Royal Gardens, Kew, for the reintroduction of this remarkable plant after being lost to cultivation many years, and also for presenting a specimen to this Society, and by so doing giving the people of the Midlands an opportunity of seeing this wonderful West Indian plant."

— *LOBELIA MAID OF MORAY*.—On page 30 of your issue for July 14th your correspondent, Mr. Molyneux, draws attention to the beautiful dwarf bedding Lobelia above named, which he calls a striking novelty. Striking it undoubtedly is, but a novelty it can hardly be correctly called. It was sent out last year under this name by a leading firm of Edinburgh nurserymen, and being a great admirer of this family I sent for a dozen plants, but when they bloomed I at once said that it was identical with what was sent out many years previously by the well known German firm of Pfitzer of Stuttgart, under the name of Swabische Mädchen or Suabian Maiden. Its habit is all that your correspondent says, and if it were but a little more free blooming it would be quite an acquisition. Messrs. Cannell, of Swanley, sent me last year under the name of Pieotee another Lobelia of exactly similar habit of growth and with flowers of a rather lighter hue, which forms a very pretty companion to the Maid of Moray or Suabian Maiden. I am also much pleased with another beautifully compact and dwarf growing Lobelia named Little Dot sent out this year by Mr. W. B. Hartland of Cork, which is a much freer bloomer than either of the above named varieties, and promises to be a great acquisition. Its flowers are a rich deep shade of blue.—*BOSCOBEL*.

— *BAMBOOS AT KEW*.—We gather from the "Kew Bulletin" that owing to the collection of hardy Bamboos and allied plants having outgrown the space allotted them in the beds near the temperate house, a new garden has been made for them in the wood near the Rhododendron dell. This garden is in the form of a shallow depression with sloping banks 12 feet wide and a central pear-shaped bed 125 feet by 75 feet. To make it, the surface soil had to be removed and the gravel taken out to a depth of about 3 feet. A large quantity of new soil and manure was added, so that the Bamboos have now a good depth of rich soil. Two new paths leading to the Bamboo garden have been made, one from the Syon vista and the other from the Stafford walk. The Bamboos planted in the gardens are:—*Arundinaria Fortunei* (*Bambusa Fortunei*), *A. japonica* (*Bambusa Metake*), *Bambusa albo-striata*, *B. gracilis*, *B. nana* (Hort), *B. palmata*, *B. plicata*, *B. pumila*, *B. tessellata*, *B. Veitchii*, *Phyllostachys bambusoides*, *P. nigra*, *P. Quilloyi* (*Bambusa Quilloyi*), *P. violascens* (*Bambusa violascens*), *P. viridi-glaucescens* (*Bambusa viridi-glaucescens*), *Thamnocalamus Falconeri* (*Bambusa Falconeri*), and several others unnamed. Besides Bamboos it contains such plants as *Arundo*, *Eulalia*, *Crinum*, *Funkia*, *Yucca*, &c. It is also intended to bring together in this garden a number of the coarser growing monocotyledonous plants which can be grown in the open air at Kew.

— *ELLAM'S EARLY CABBAGE*.—Through the announcement of the death of Mr. J. Ellam, formerly head gardener at Cliveden, which took place at Oxford on the 17th inst., we are reminded that, far more fortunate than many other horticulturists, Mr. Ellam has left behind a memorial the which will presumably long endure, in the small early Cabbage which bears his name. It is unusual good fortune for the raiser of any good thing thus to have his name so closely identified with it as is the name of Ellam with this Cabbage. How many distinguished horticulturists have raised fine products of which the reputation of the product only lives, whilst that of the originator has been lost absolutely? How many a good gardener has had his name associated with some florist's flower, but which, being popular for a year or two, has soon been buried in oblivion? Such is fame when allied to floriculture. Mr. Ellam was more fortunate. His name will long be borne in pleasant remembrance because it is associated with such an excellent vegetable as is this early Cabbage, and which

will be long literally and figuratively in our mouths. How interesting would it have been to learn exactly how this Cabbage originated. In any case, it seems to have been closely allied to that excellent variety Little Pixie, and equally has some apparent connection with the famous Hardy Green Colewort, so good and precocious is it. We now universally advise its culture for all sorts of seasons, not only because it is so precocious, but also because so good, and it may be grown so close together, not robbing the soil in the same way that gross Cabbages do with but



FIG. 11.—SARRACENIA FLAVA.

indifferent returns. Then small Cabbages are always less wasteful, sweeter, tenderer, and in every respect more satisfactory than are big ones. Therefore we retain Mr. Ellam and his Cabbage green in our memories.—A. D.

— COLDER SEASONS AND VEGETATION.—In reference to the recent publication in the Journal of some observations by Mons. Flammarion on this subject, Mr. W. Thomson of Clovenfords writes to a northern contemporary as follows—"From whatever cause this general depreciation of the climate of Europe arises, it is a circumstance which can scarcely be disputed that, for the time being, the climate, for all cultural purposes, is not what it was fifty years ago. Then we had

exceptionally bad seasons, as, for instance, 1836, and others since then not quite so bad. The bad were the exception then, the good are the exception now, which makes a very material difference. Cold winters are very trying, but they do not inflict the injury on the country that cold summers do. While I write, on July 12th, the thermometer is standing at 52°, and was as low as 47° at six o'clock this morning. At the same time, vegetation cannot be said to be hopelessly backward, thanks to the rain and very warm weeks we had in June. Turnips and Potatoes are not making the progress they should do at this season, in consequence of the absence of the steady, genial heat that used to be a characteristic of July weather. There can be no doubt that the absence of summer warmth is lowering the value of land in Britain, and Europe generally. I have it on the authority of some of the most able and observant farmers I know that, with increased agricultural skill, greatly improved implements, and an enormous increase in the application of artificial manures, not to speak of foreign feeding stuffs, they cannot on the same farm produce anything like the crops they did forty years ago, or keep the same stocks of sheep and cattle. If this deterioration of the climate is taking place, which seems evident, it is specially a serious matter for Scotland, where the margin of heat that can be spared is a small one."

SARRACENIAS.

(Concluded from page 27.)

IN 1881 Dr. Masters published in the *Gardeners' Chronicle* an excellent monograph of Sarracenias, which included all the kinds of garden origin in addition to the species and varieties known at that time. Writing of *S. flava*, he stated that as well as being the tallest species in cultivation it is also the most variable, some of the so-called varieties being so widely different from the type that it is questionable if they ought not to rank as distinct species. In the accompanying figures we have represented the typical *S. flava* and an extreme variety called *maxima*, which support this view. *S. flava* (fig. 11) has pitchers about 3 feet in length, narrow all the way up, with a half-opened lid, and coloured bright green, tinged when mature with yellow about the mouth. When weakened by improper treatment its pitchers are not developed, but are all "wing," not unlike the blade of a knife. The plant obtains its name from the colour of its flowers, which are bright yellow. The disc-like stigma is 2 inches across. *S. flava* is not included among the best as a Pitcher Plant, but it is well worth a place in any greenhouse collection on account of its handsome, freely produced flowers.

The variety *maxima* (fig. 12) is of garden origin, or at any rate it is only known from cultivated specimens. It is almost as fine as the variety *ornatus*, the pitchers being wide-mouthed with a large lid and coloured bright green, tinged about the mouth with yellow and slightly veined with crimson. The other good varieties of *S. flava* are *picta*, with very large wide-mouthed pitchers, greenish yellow, richly veined with purple; *ornata*, whose enormous canary yellow flowers are as beautiful as Emperor Daffodils, and of which the handsome pitchers are unsurpassed; *erythropus*, *limbata*, *crispata*, and *atrosanguinea*. There is a variety, found by the collector Drummond in New Orleans, which has long pitchers "stained with purple for nearly their whole length." I have never seen this plant, but from the description it is well worth the attention of collectors.

The allied genus *Darlingtonia*, a native of California, is similar to the Sarracenias in its habit of producing pitcher-like leaves, and it requires the same kind of treatment, plus a warmer position in the greenhouse, at all times. I am told that the finest examples, with pitchers 3 feet high, were grown in a moist shaded warm greenhouse. There is only one species—viz., *D. californica*. Several attempts have been made to cross this with the Sarracenias, and one, I have recently learnt, has been crowned with success. A plant combining the highly remarkable characters of these two genera cannot but be of the highest interest to botanists as well as horticulturists. *Darlingtonia* produces seeds freely under cultivation, and it is also easily multiplied by means of offsets. Its flowers are not ornamental, but the pitchers of well managed plants are decidedly so, both in variegation and in form, the latter being not unlike the raised head of a cobra about to strike, a similarity which has led to its being called the Cobra Plant.

The only other ally of Sarracenia is *Heliamphora nutans*, a native of the Roraima Mountain in British Guiana, where it was first discovered by the late Sir R. Schomburgk, and whence it was introduced a few years ago by Messrs. J. Veitch & Sons. Last year also some imported plants were sold by Messrs. Protheroe and Morris, I believe for Messrs. Charlesworth, Shuttleworth & Co. Some of the latter have been established in several London nurseries, and we may therefore hope eventually to see the

Heliamphora in general cultivation. It has rather fleshy upright pitchers, with a very small lid, much smaller than the mouth of the pitcher. The flower is not so specialised in structure as in *Sarracenia* and *Darlingtonia*, but is more like that of the *Ranunculus*, to which really these *Sarraceniaceæ* are closely allied. *Heliamphora* was flowered by Messrs. Veitch a year or two ago, and a figure of it was soon afterwards published in the "Botanical Magazine."—W. W.

HORTICULTURAL SHOWS.

BIRMINGHAM.—JULY 19TH.

WE last week gave a brief notice of this Exhibition, and now give a few further details. The downpour of rain all the first day was followed by a violent gale in the evening and throughout the night, one tent collapsing altogether, but no great harm was done. But for the vigilance of the men told off to watch the tents all night the great tent, 230 feet long, would have shared the same fate. The second day was a fine one, and a very large number of visitors attended.

The Roses we have already alluded to, but there were two boxes of the older sorts of garden Roses, sent by Messrs. Cooling & Sons, Bath, to which a silver medal was awarded. The centre of the long tent was devoted to some beautiful groups of plants. At the entrance Messrs. Thomson & Co. had arranged a lovely bit of artistic work in Ferns, climbing Asparagus, and other plants, with rockwork and a miniature pool containing Water Lilies. Then followed the three larger groups, for the prizes of £10, £8, and £6, Mr. W. H. Dyer, gardener to Mrs. Marigold, Edgbaston, taking the first prize with a beautiful well-arranged group, in which well coloured small Crotons were seen to great advantage. Mr. Earp, The Gardens, Highbury, was second with a good sprinkling of Orchids in the group, but a flatness in the arrangement told against it. Third, Mr. F. Denning. A class for smaller circular groups, 10 feet in diameter, brought out four good exhibits, Mr. Dyer again taking the first prize with an equally well set up group, and also a special prize for ornamental plants and some specimen stove and greenhouse plants in flower, including a grand *Kalosanthes*, 3 feet through.

Messrs. Hewitt & Co., The Nurseries, Solihull, had a large group of well-flowered Pelargoniums and a large display of cut herbaceous, Carnation, Begonia, and other blooms. Messrs. Thomson & Co. also contributed a large display of cut flowers and plants. Messrs. Cannell and Sons, Swanley, had a greatly admired display of double Begonias, tastefully arranged in sprays of three blooms each. The Rev. Mr. Lascelles, Rosebud, Hon. Mrs. Goschen, and other varieties were especially fine. Miss Falkner is a lovely deep bright yellow. Next to these were a display by newer sorts of Sweet Peas in bunches from Mr. Henry Eckford of Wem, and these also were greatly admired. Lottie Eckford, although not a new variety, is a lovely and distinct one, white margined with pale blue; Royal Robe, faint blush pink, very lovely; Majestica, lighter in colour than Royal Robe, blush with pale rose margin; Venus, pale rose tinted salmon; Blanche Burpee, a very fine white; Mikado, light rose flushed with white; H. M. Stanley, very dark; Firefly, deep bright crimson, very fine; Emily Eckford, a distinct pale blue lilac self colour, and with more of a blue colour in it than any other; Lady Penzance, bright orange tinted pink and very lovely, were very fine. Messrs. Hewitt & Co. staged several plants of a dwarf close-habited decorative Pelargonium, A. F. Barron, a most useful sort. Mr. Jannoch, Dersingham, had a lovely display of Lily of the Valley blooms, rather a novelty in July, to which a silver medal was awarded; also his new Fern *Adiantum Capillus-Veneris* var. *grande*. Mr. W. H. Gabb, Small Heath, contributed Fancy Pansies and Violas.

The Moseley Botanical Gardens will evidently be a home in future for flower shows, as Mr. Ross, the proprietor, is in a position to offer good prizes. Another Exhibition is fixed for the end of August, when good prizes will be offered for collections of Dahlias as well as for classes of Dahlias.

CATERHAM.—JULY 20TH.

THIS Exhibition was held in a park-like field near the railway station, and in the Caterham valley the morning was an exceedingly cold and wild one, and the wind came down from the adjoining hills in tremendous gusts, at times almost tearing down the fine tent, which happily withstood the forces of bold Boreas, though at times tremblingly. There were, as is usual, some few honorary groups of plants staged, notably one from Messrs. J. Laing & Son, Forest Hill; also from Messrs. J. Peed & Son, Lower Norwood; from Messrs. Butcher & Sons, Norwood, and from Mr. G. T. Sedgely, a local florist. Of the ordinary decorative groups the best was arranged by Mr. Lane, gardener to E. H. Colcs, Esq. A plant of the old *Trachelium cœruleum* was a prominent feature in it; also there were some good Begonias, *Dracænas*, Crotons, &c. The second prize went to Mr. Palmer, gardener to Percy Clarke, Esq., and the third to Mr. Papworth, gardener to J. Lyon, Esq. Owing to the exceedingly elevated centre staging it was practically impossible in some cases to see or reach the prize cards. The best foliage specimen was a good *Maranta zebrina*, and a fine single scarlet Begonia, an unusually good specimen, was the best flowering plant. Mr. Harris, gardener to R. H. Salmon, Esq., had the best three Ferns. Three fine double-flowered Zonal Pelargoniums won the first prize in that class for Mr. Jones, gardener to J. Newberry, Esq. Mr. Brand, gardener to G. W. Warren, Esq., had the best six Begonias in bloom; whilst Mr. Palmer came first with three nice pots of *Achimenes*. Well bloomed *Gloxinias* were very good. Mr. Brand had the best six. One of his

plants had a wonderful mass of fine erect flowers, fully 16 to 20 inches over, and was one of the best plants we have seen.

Dinner-table decorations were creditable, the best being shown by



FIG. 12.—SARRACENIA FLAVA VAR. MAXIMA

Mrs. W. Soper, consisting of five glass stands of single stems filled with pink Sweet Peas, Grasses, and Ferns, and having at the corners tiny Ferns tied with pink ribbons, standing in little wicker baskets. Miss Soper, who was placed second, having stands dressed with scarlet field and Iceland Poppies, Asparagus, and Grasses. Mr. Myatt, gardener to J. Perry, Esq., had the best box of cut flowers, *Allamandas*, *Eucharis amazonica*, *Amaryllis*, *Kalosanthes*, *Gloxinias*, and *Passifloras*. Mr.

C. Roberts, gardener to C. Asprey, Esq., was first with four dishes of fruit, comprising very good Black Hamburg Grapes, Melons, Raspberries, and Cherries. Mr. Pearman, gardener to H. Horne, Esq., was second, having also fair Grapes, Melons, and other fruit. Mr. Roberts had the best two bunches of Grapes in finely finished Hamburgs, Mr. Harris coming second with Muscat of Alexandria. Mr. Roberts had the best dish of Tomatoes in a superb lot of Perfection, and Mr. Myatt was second, and also first in another class with the same variety. Mr. Palmer was first with six vegetables, having pretty white Kidney Potatoes, Carrots, Cauliflowers, Marrows, Peas, and Turnips. The same exhibitor had the best nine dishes in a special class with excellent quality. The exhibits in the cottagers' classes were not numerous, but vegetables were very good. In the evening Mr. A. Dean of Kingston, who with Mr. J. Hudson of Gunnersbury, acted as one of the Judges, gave under the auspices of the Surrey County Council an address on Cottage and Allotment Gardening under very disadvantageous conditions, no preparations whatever having been made for the meeting.

LIVERPOOL.—JULY 20TH AND 21ST.

ON Wednesday and Thursday last the thirteenth annual Show of the Liverpool Horticultural Association was held on the review ground, Sefton Park. Tuesday was a day to be remembered, pouring rain and a gale of wind lasting throughout the day and night. Many who had brought their plants in readiness for the morrow, fearing the safety of the tent, preferred to leave them in the vans, and perhaps it was just as well, for a portion of the tent was blown down, but fortunately without damage; and what a change on Wednesday! a calm morning with warm sunshine, and never has there been a more fashionable attendance on a first day at any previous Show. On the second day the attendance was very good. Of the Show itself, considering the adverse season the exhibits may be classed as uniformly good. Roses which were to have been a special feature were greatly at a discount owing to the terrible storm of Tuesday, and exhibitors reserving their forces for the Manchester and Ulverston Rose Shows, which were held last Friday.

PLANTS.—In the class for ten stove and greenhouse plants Mr. B. Cromwell, gardener to T. Sutton Timmis, Esq., Cleveley, Allerton, was the only exhibitor, and his plants were excellent. Amongst the best a grand Croton Queen Victoria, which secured the silver medal; Erica Parmenteriana rosca, Allamanda grandiflora, Statice profusa, Ixora Williamsi, and a fine Scaforthia elegans. In the class for six stove and greenhouse plants an exhibitor who has not been seen for some years came out again, Mr. G. Leadbeater, gardener to W. J. Davey, Esq., Holmleigh, Grassendale. His plants were in perfection foliage and flowering, and consisted of Crotons Queen Victoria and Weinmani, Kalosanthes coccinea, Allamanda grandiflora, and Clerodendron Balfourianum (splendid). Mr. Jellicoe, gardener to F. H. Gossage, Esq., Camp Hill, Woolton, was a very good second, having Croton Countess, Anthurium Andreanum, and Allamanda grandiflora, all very fine; Mr. T. Healey, gardener to Col. Wilson, Hillside, Allerton, being third. For three stove and greenhouse plants Mr. Jellicoe first with a good Kalosanthes coccinea, Anthurium Andreanum, and Allamanda nobilis. For single stove and greenhouse plants in bloom Mr. T. Healey and Mr. T. Gowen, gardener to J. A. Bartlett, Esq., Lynton Lodge, Mossley Hill, won respectively with Ixora Williamsi, good; and a finely flowered plant of Hydrangea Thomas Hogg. For four fine-foliaged plants Mr. Cromwell was first, having Anthurium crystallinum and Croton Queen Victoria, excellent. One fine-foliaged Mr. T. Gowen was first with a fine Anthurium crystallinum. The prizes for three Palms and one Palm were taken respectively by Mr. Jellicoe and Mr. J. J. Craven, gardener to J. G. Grant Morris, Esq., Allerton Priory.

Exotic Ferns have never been shown to greater advantage. For six specimens Mr. T. Gowen was first with a fine fresh selection, the best being Davallia Mooreana, 10 feet through; Gymnogramma peruviana argyrophylla; and a splendid plant of Gleichenia dicarpa, 5 feet. Mr. Cromwell was a capital second, having Davallia fijiensis, Gleichenia Mendeli, and Nephrolepis rufescens tripinnatifida, all excellent. In the class for three Mr. G. Eaton, gardener to W. H. Shirley, Esq., Allerton House, Allerton, was an easy first, having fine examples of Davallia Mooreana 8 feet through, Gymnogramma peruviana argyrophylla, and Microlepia hirta cristata. Second, Mr. T. Foster, gardener to J. Brancker, Esq., Greenbank, Wavertree; the latter being first for six hardy and two Filmy Ferns. The prizes for one Tree Fern and one Fern (not Tree) fell to Messrs. Gowen and Jellicoe. For four Lycopods Mr. T. Jones, gardener to W. C. Clark, Orleans House, Sefton Park, secured the prize; whilst the six table plants was taken by Mr. J. Bounds, gardener to A. L. Jones, Oaklands, Aigburth. Orchids were an improvement on last year, the prize for four going to Mr. T. Wilson, gardener to O. H. Williams, Esq., Fulwood Park, Aigburth, for Sobralia macrantha, Vanda suavis, Oncidium crispum grandiflorum, and Lælia purpurata. Mr. C. Osborne, gardener to H. J. Robinson, Esq., Aymestry Court, Woolton, taking second honours. For one Mr. T. Gowen showed a splendid fresh piece of Saccolabium Blumei majus, with ten spikes. Second, Mr. J. Bounds.

Fuchsias, Coleus, Gloxinias, and Caladiums were all shown in good condition by Messrs. Cromwell, T. Moorhouse (gardener to R. Brocklehurst, West Derby), G. Eaton, and T. Carling (gardener to Mrs. Cope, Dove Park, Woolton). There was a divided opinion as to the award for the single Fuchsia, the second prize, shown by Mr. T. Winkworth, being a beautifully flowered standard Earl Beaconsfield, and which was greatly admired. Zonal Pelargoniums were especially fine. For six Mr. Winkworth, gardener to Ralph Brocklebank, jun., Esq., Childwall Hall, was a grand first with perfectly trained and well

flowered plants. A friend of the writer who has exhibited several times at York, said he never saw anything to approach them shown at York. They were the admiration of all. Mr. Winkworth was also first for a single Zonal. The second prize for six plants went to Mr. T. Gowen for excellent examples. Mr. Stoney, gardener to Sir Thomas Earle, Bart., Allerton Towers, staged grand Ivy-leaf Pelargoniums, some 5 feet high, and well flowered, securing the first prize for four, Mr. Winkworth being a very good second. Tuberous Begonias in the six class were not up to the usual standard, the prize going to Mr. J. Agnew, gardener to Mrs. Watts, Aigburth, the same exhibitor winning with a grand pink variety in the single class. Cockscombs were a very strong class, the first prize falling to Mr. W. Lyon, gardener to A. Mackenzie Smith, Esq., Bolton Hey, Roby, for grand samples. Mr. Bounds secured the prize for two Lilliums with auratum and a beautiful example of auratum vittatum rubrum, the second place being taken by Mr. C. Osborne. For one Mr. Osborne had a magnificent auratum with over 100 blooms.

Groups were very fine, the 150 square feet prize being awarded to Mr. Jellicoe for an excellent arrangement. Rising from the centre was a small Phoenix, the pot being clothed with Panicum and Maidenhair Fern, the latter extending to the level of the group. Four smaller pyramids, having Croton interruptus as centre plants, were arranged at intervals. With these the same system of draping had been followed out, the entire groundwork being composed of Maidenhair, and the outside being completed with a band of well coloured Panicum, Gloxinias, Francoas, and pretty plants of Croton interruptus aureus gave the necessary tone of colour to a beautiful group. Mr. J. Bounds was second, the arrangement being very good, but the edging not completed. For 250 square feet, open class, Messrs. Ker & Sons, Aigburth Nursery, arranged a beautiful group. The advantage of the new kinds of Crotons for decorative work sent out lately by Messrs. Ker was evidenced by the judicious way in which they were interspersed throughout the group. The second prize went to Mr. T. Jones, and the third to Mr. T. Coulton, nurseryman, Aigburth.

For four Tomatoes in pots Mr. T. Carling had splendid samples. They were grown four plants in a pot, and literally roped with fruit of fine size and quality. The decision of the Judges in the second prize award was freely commented upon. Mr. Bounds, who received it, had certainly the riper fruit, but the plants were sickly looking, and the fruit far behind in quality that of the third, awarded to Mr. J. Stoney.

ROSES AND CUT FLOWERS.—Only Messrs. Dicksons, Limited, Chester, staged in the forty-eight class for Roses, and a very good stand it was, consisting of the leading varieties. For twenty-four blooms Mr. J. Fell, gardener to A. G. Smith, Earlston Hall, Liscard, was the only exhibitor, the best being Mrs. J. Laing, Pride of Waltham, and Baroness Rothschild. For twelve blooms Mr. J. Lydiatt, gardener to T. Gee, Esq., Greenhill, Allerton, first, the best being La France, Mrs. Laing, and Her Majesty; Mr. C. Carran, gardener to T. Raffles Bulley, Esq., Liscard, being second. Mr. P. Green, gardener to L. H. Macintyre, Greenheys, had the most tastefully arranged box of Roses, Mr. Carran second.

The prize for twelve stove and greenhouse cut flowers was won by Mr. Jellicoe. For twenty-four varieties of hardy herbaceous cut flowers Messrs. Dickson had the finest stand that has been seen at a Liverpool Show. The best flowers were Campanula glomerata, Alstroemeria aurea, Cephalaria antarctica, Spiræa ulmaria flore pleno, and Agrostemma Walkeri. Mr. G. Eaton was a capital second, having Lilium species, Iris of sorts, Alstroemeria aurea, and Galega officinalis, very good. For twelve varieties, Mr. T. Foster first. The prizes for hand bouquets, model garden, Carnations, and Picotees and Dahlias were taken by Messrs. Bounds, Carling, Corlett, Lowndes, and Bounds in the order named.

FRUIT although not quite so numerous was fully up to the excellent standard seen at Liverpool. For eight dishes there was only one entry, —viz., Mr. J. Bennett, gardener to the Hon. C. H. Wynn, Rûg, Corwen, N. Wales, and only a formidable opponent could have stood the slightest chance against him. He had splendid examples of Alnwick Seedling and Buckland Sweetwater Grapes, Hero of Lockinge Melon (grand), Royal George Peaches and Violette Hâtive Nectarines, Negro Largo Figs, President Strawberries and a good Queen Pine. For six dishes Mr. T. Elsworthy, gardener to A. R. Gladstone, Esq., Court Hey, Broad Green, came first, having capital dishes throughout, the best being Madresfield Court Grapes, Hero of Lockinge Melon, Bellegarde Peaches and Elruge Nectarines. Mr. Elsworthy came first with the same varieties, being followed in each instance by Mr. R. Pinnington, gardener to Mrs. Banner, Blacklow House, Roby. The second honours for six dishes fell to Mr. Oldham, gardener to Joseph Beecham, Esq., Ewanville, Huyton, who had grand Black Hamburg and Buckland Sweetwater Grapes. For four bunches of Grapes Mr. Bennett staged well finished Madresfield, Black Hamburg, Buckland Sweetwater, and a fine bunch of Duke of Buccleuch. Mr. G. Middleton, gardener to R. Pilkington, Esq., being second with grand bunches but not quite finished. For two bunches of Black Hamburg Mr. Middleton staged two which for size of berry and bunch, colour, and shape have never been surpassed. Mr. Oldham was a capital second. Mr. Middleton took the lead with Muscats, and second with grand bunches of Madresfield Court not quite finished; the first prize going to Mr. W. Wilson, gardener to H. Cunningham, Esq., Gorse Cop, Gateacre, for smaller bunches but beautifully finished. For any other white Mr. J. Gray, gardener to Sir G. Meyrick, Bart., Bodorgan, for gigantic bunches of Foster's Seedling. Messrs. Gray and Bennett were first and second with green flesh Melon, both showing Hero of Lockinge, Messrs. Bennett and Pinnington securing the scarlet flesh class with Sutton's A1. The latter exhibitor won with six dishes of hardy fruits.

The classes for Strawberries, Cherries, and best arranged basket of fruit fell to Messrs. Stoney and Cromwell.

Vegetables call for no special comment with the exception of the twelve varieties, eight, and six. In the two former Mr. J. Stoney took first honours. In the former he had Dickson's Scarlet Carrot, Giant Rocca Onion, Perfection Tomato, Early Puritan Potato, and Sulham Prize Celery, all very good. The second honours were awarded to Mr. T. Smeatham, Leaton Knolls, Shrewsbury, for superb Rousham Park Hero Onions, Globe Beet, Webb's Favourite Carrot, Perfection Tomato, Satisfaction Potato, and Lyon Leek. The second place in the eight was taken by Mr. J. Pownall, Moss Street, Prescott, he having International Kidney, Sutton's Vegetable Marrow, Early Gem Carrot, and Clayworth Pink Celery. For six varieties Mr. Smeatham took the lead with a repetition of what has already been recorded. The prizes for Peas (two), Potatoes (two), Tomatoes (two), and Cucumbers went to the following—Messrs. R. C. Townshend, gardener to R. T. Lloyd, Aston Hall, Oswestry; J. Norris, Formby; W. Mackarell, Formby; J. Norris, T. Carling, H. Howard, gardener to A. C. Mather, Beechwood, Woolton; and J. Hannagan, gardener to R. C. Naylor, Esq., Hooton Hall, Cheshire. In the cottagers' class Mr. Norris was successful in classes for Potatoes and Tomatoes.

MISCELLANEOUS EXHIBITS.—Cultural certificates were awarded to Messrs. Laing & Mather, Kelso-on-Tweed, for a stand of Germania and Souvenir de la Malmaison Carnations, including the beautiful Lady Middleton, which has flowers of a lovely pink, streaked with bright crimson. This stand found many admirers. To W. Edwards & Sons, Sherwood, Notts, for a new kind of ware called "Edwardine," for Ferns, flowers, &c. To Messrs. T. Davies & Co., Wavertree Nursery, for an excellent stand of herbaceous cut blooms, prominent being a grand selection of Gaillardias. They also exhibited various garden utensils. To the Liverpool Horticultural Co. for wreaths, crosses, and sprays; and to Messrs. J. Forbes & Son, Hawick, for stands of Pansies, Begonias, and herbaceous plants. The Secretary, Chairman, and Committee are to be congratulated on the admirable arrangements of the Exhibition.—R. P. R.

HIGHGATE.—JULY 21ST.

THE thirty-third annual Exhibition of the Highgate Horticultural Society was held in the grounds of The Priory, Highgate, London, N., on the above date by the kind permission of Colonel Stedall, J.P. Being favoured with fine weather there was an excellent attendance of visitors, and the exhibitors turned up in good numbers. A liberal schedule having been provided the exhibits were numerous, diversified, and, as a whole, of fair quality. Apart from the gardeners' section, the amateurs', cottagers', and children's classes were well represented, and excited much interest. Fruit and vegetables in this section were very good.

Specimen plants were well shown. Mr. H. Eason, gardener to B. Noakes, Esq., Highgate, secured the first prize for six flowering stove and greenhouse plants, showing fine specimens. The leading honour for a single specimen plant also went to Mr. Eason, who staged a grand *Ixora*. Mr. J. Brooks, gardener to W. Reynolds, Esq., Highgate, was second with a fine specimen of *Bougainvillea glabra* in this class. Trained *Colus* plants were also good, the best being staged by Messrs. Brooks and Eason. The last-named exhibitor was also first with Zonal Pelargoniums, the second award going to Mr. H. G. Russell, gardener to H. Mansfield, Esq., Highgate.

Exotic Ferns were very fine, although not numerous. Mr. Eason had the best six plants, which included a magnificent *Davallia Mooreana*, possibly 6 or 7 feet in diameter. The same exhibitor was first for six foliage stove and greenhouse plants. Tuberous Begonias and Gloxinias were best shown by Messrs. Eason, Brooks, H. G. Russell, and W. Wilkinson, gardener to F. Lowe, Esq., Crouch End. Trained Verbenas were a feature not often seen at local shows, and the plants staged gave evidence of careful culture. Mr. G. Quelch, gardener to W. Howard, Esq., Hoscote, Shepherd's Hill, was placed first in this competition. Mr. J. Brooks secured leading honours for Fuchsias and Cockscombs, also for Petunias in pots. Balsams were best shown by Mr. C. J. Webber, gardener to H. Smith, Esq., Muswell Hill; and cut Zonal Pelargoniums by Mr. Eason, who was also awarded first prize for table plants. The leading honours for groups of plants fell to Messrs. Eason and Brooks.

Roses were most numerous in the amateurs' section, although a few were shown in the open classes. Mr. A. Page, gardener to A. Taylor, Esq., New Southgate, was first for twelve bunches, and Mr. J. Bateman, Highgate, second. Mr. Will Taylor, Hampton, staged a "not for competition" box of fresh blooms. Messrs. W. Cutbush & Sons, Highgate, had a collection of hardy flowers and Roses, and Messrs. B. S. Williams and Son, Upper Holloway, a group of miscellaneous plants.

Fruit and vegetables were not very plentiful in the gardeners' section. Mr. H. A. Page, gardener to F. Crisp, Esq., White House, New Southgate, was first for a collection of miscellaneous fruit, and also for white and black Grapes, the latter including some well-grown Madresfield Court. Mr. A. Page was first for a collection of hardy fruit, and also for vegetables. Peaches were best shown by Mr. J. Brooks, who also secured second position for a collection of miscellaneous fruit.

WOODFORD.—JULY 21ST.

THE twentieth annual Exhibition was held on the 21st inst. at Knighton, Woodford. The current Exhibition was quite up to its usual standard, and its recent affiliation to the Royal Horticultural Society proves it is still ready to go forward. The open classes were well filled,

but only the chief classes can be noted here owing to scarcity of space. The amateur classes appear to be steadily gaining ground, while the cottagers are certainly not lagging.

In the open division the class for a group of plants arranged for effect, with the silver medal of the R.H.S., brought out strong competition, though there was no difficulty in selecting the winner, who proved to be Mr. Nicholson. His arrangement was very effective, and the plants good, Palms, Crotons, *Dracenas*, Orchids, and Gloxinias being the chief features. Mr. Jeyeph was second with a tasteful arrangement, but quality of plants told heavily against him. Third, Mr. Mobsby, whose arrangement was too formal, though the plants were excellent. The class for six stove and greenhouse flowering plants did not bring out any very special feature. Mr. Cade secured the first prize, his best plants being a good *Fuchsia* and *Lilium l. album*; Mr. Nicholson showed fine specimens of *Clerodendron* and *Statice Holfordi*. Third, Mr. Mobsby. Stove and greenhouse foliage plants were better. Mr. Nicholson was first with a good *Acalypha Macafeana*, *Croton* Mrs. Swan, and *Pandanus Veitchi*. Mr. Tween was second, his best plants being *Latania borbonica* and *Pandanus Veitchi*. Mr. Jeyeph was third with a good *Dracena Baptisti*. Caladiums were a strong feature, Mr. Nicholson leading with well-grown plants, highly coloured. Second, Mr. Cade, with older varieties and smaller plants. Coleuses were the best we have seen for some years in this district, Messrs. Cade, Tween, and Nicholson taking the first, second, and third prizes respectively.

Stove and greenhouse Ferns brought out a strong contingent, Mr. Mobsby leading with a good plant of *Todea superba*, Mr. Nicholson second with a fine *Davallia Mooreana*, Mr. Tween third. Single specimen foliage plant, first Mr. Nicholson, showing a very fine *Cycas revoluta*, Mr. Cade following with good *Latania borbonica*. Palms were very good indeed. Mr. Jeyeph was first with good plants of *Arceca rubra* and *A. Baueri*; second Mr. Tween with *Phoenix rupicola*, noteworthy; third Mr. Willingdale with a fine plant of *Phoenix reclinata*. Hydrangeas found Mr. Jeyeph first with well-flowered specimens. The Begonia prizes were taken by two amateurs, Messrs. Pether and J. W. Jones, both staging good plants. Cut Roses were good, though the recent gales prevented keen competition. Mr. Davis won first place, and Mr. Nicholson was a close second. Mr. Langlands third. Twenty-four distinct varieties, cut flowers, brought a strong lot. Mr. Mobsby led, followed by Messrs. Nicholson and Rumball. Hand bouquets were not up to their usual standard, Messrs. Nicholson and Colville taking the prizes in rotation.

Fruit was excellent, and the classes well contested. Mr. A. Smith was first for three bunches of black Grapes with good Gros Maroc. Mr. Peacock second with well-coloured Hamburgs. In Muscats Mr. Smith was well ahead with five heavy bunches. Peaches and Nectarines also found Mr. Smith first, and Mr. Davis second in both classes. Currants and Gooseberries were very fine. Vegetables were both numerous and good, especially the baskets. Amateurs' and cottagers' classes were well filled, especially in plants and vegetables. Classes for single-handed gardeners were quite a failure. After the complaints these had made about the inequality of their competing with the gardeners in larger places, we are surprised they did not support their own section. Dinner-table decoration was a feature, occupying the greater part of one tent.

Trade exhibitors added their quota to the Show, and were greatly admired. Messrs. W. Paul & Son had a large collection of Roses; Mr. W. Rumsey likewise had an extensive display; Mr. J. B. Riding, Chingford, a collection of Violas and Pansies; Mr. R. Bass, Woodford, some choice Zonal Pelargoniums.

TRENTHAM.—JULY 21ST.

ALTHOUGH the Trentham and Hanford Horticultural Society is distinctly juvenile as regards age, the experience and energy of its active officials have established it in a strong position, and its annual Shows rank amongst the best in the provinces. In some respects the fifth Exhibition, held on the 21st inst., may be fairly described as the best in the kingdom up to date, and it is doubtful if the combined effect that was produced by the groups of plants and display of fruit will be surpassed during the season. Much is expected in the way of fruit at the International Exhibition at Earl's Court next month, and it need only be said that if the show of Grapes equals the Trentham display a great success will be achieved.

For Grapes and groups this year's gathering on the great ducal estate of the Midlands will not be soon forgotten by those who witnessed them on a brilliant day last week. But there was much more to admire than fruit and the tasteful association of plants. Roses were one of the charms of the Show, and the beautiful stands of Messrs. Harkness and Sons, Perkins & Son, and B. R. Cant in the open classes were, so to say, besieged by a dense crowd of visitors throughout the afternoon, and it is not often that the attractive force of Roses has been better exemplified. Bouquets and floral decorations were of the highest order of excellence, while vegetables were in great force and of superb quality, cottagers joining most creditably in this section of the Exhibition.

The Duke and Duchess of Sutherland take great interest in the Show, and with a number of friends, officials, and Judges were photographed in the chief tent during the opening ceremony. The luncheon is also a notable event at Trentham, and nearly 200 ladies and gentlemen must have assembled on the occasion under notice. Speeches were delivered by three Mayors, as well as by Judges and officials, all having the true horticultural ring in them, and the gathering was very enjoyable.

Turning to the Show only its general character can be described, and this chiefly from memory; for when a chronicler has to first to assist in

the adjudications he finds in such shows as this a great inrush of people as soon as his primary work is done, and note-taking then results in a series of pocket-book hieroglyphics, almost hopelessly undecipherable. The groups, it has been said, were a chief feature, and it was only right they should be, seeing that no less than £62 was offered in four prizes in the open class—namely, first prize, £25; second, £16; third, £12; and fourth, £9. Each group occupied a space of 300 feet, and as five collections, square in outline, but the front line curved, were arranged, a striking effect was produced. It was apparent at a glance that the Judges, Messrs. John Wills, Onslow Crescent; Owen Thomas, Frogmore; and F. Sander, St. Albans, had no light task, and it was only after a long and close scrutiny that they could satisfy themselves in their verdict, which was as follows:—First, Messrs. J. Cypher & Son, Cheltenham; second, Mr. J. McIntyre, gardener to Mrs. Gurney Pease, Darlington; third, Mr. J. Edmunds, gardener to the Duke of St. Albans, The Gardens, Bestwood, Notts; and fourth, Mr. J. Webb, gardener to J. H. Manners Sutton, Esq., Kelham Hall, Notts. Though collectively the display was a striking one, and the competition close, yet all the groups were more or less faulty. The most apparent error was in employing too many plants; and it was presumably because there was a less avoidance of crowding in Messrs. Cypher's arrangement that it was awarded the chief prize. The plants consisted largely of small Orchids and Francoas in a groundwork of moss, with raised specimens of Orchids and Ferns, under a canopy of large Palms. There was a general want of balance in the group, which was not improved by a hedge-like divisional line through it, and the margin was rather weak, yet there was a general consensus of opinion that it deserved the position accorded. Mr. McIntyre's group was very rich and heavy, in fact too heavy, and several of his undoubtedly good plants of Crotons and Palms did not stand out with sufficient distinctness. It was boldly undulated, and had an imposing effect. Mr. Edmunds' was of much the same character. Some golden Crotons stood out to great advantage, but he had employed rather too many plants of a grassy nature—Panicums and the like—that imparted a somewhat bristly appearance, yet it was a charming group. The fourth prize collection was a little more free, and would have been easily first in many competitions. The beauty of the plants was, however, certainly not enhanced by the very brown, indeed almost black, patches of moss in the groundwork. The groups extended down one side of a very large marquee, Roses being arranged down the other side, the central table being devoted chiefly to fruit, the remaining space attractively occupied by bouquets and floral decorations.

In the Rose classes many growers who had entered were unable to send blooms in consequence of the storms that shattered them in several districts. The display, therefore, was not so extensive as that of last year, but the stands of Messrs. Harkness, Perkins, and B. R. Cant made a show in themselves, worth going a long way to see. In the classes for forty-eight and thirty-six blooms, also for twenty-four triplets, Messrs. Harkness won the first three prizes, Messrs. Perkins the three seconds, and Mr. Cant the thirds in each class. The Essex veteran exhibited well, but the fixture was evidently a little too late for him, but appeared to suit the Yorkshire Roses to a day, for fresher, smoother, cleaner, and brighter blooms could scarcely be imagined. But good as they were the Coventry Roses were worthy rivals, and it was something of a triumph to defeat them. The varieties in the first prize forty-eight stands were as follows:—Back row: Gustave Piganeau, Her Majesty, Marie Baumann, Mrs. Jno. Laing, Alfred Colomb, Mrs. G. Dickson, Dupuy Jamain, Heinrich Schultheis, U. Brunner, Queen of Queens, Star of Waltham, S. M. Rodocanachi, Louis Van Houtte, Marie Verdier, Etienne Levett, Lady Mary Fitzwilliam. Middle row: Duchesse de Morny, Duchess of Bedford, Niphetos, Horace Vernet, Maréchal Niel, Xavier Olibo, Mdme. G. Luizet, Comte de Raimbaud, Mrs. Harkness (grand light pink sport of Heinrich Schultheis, very fine), C. Lefebvre, Viscountess Folkestone, Abel Carrière, M. de Lyon, A. K. Williams, Countess of Rosebery, Dr. Andry. Front row: B. Joubert, Comtesse de Serenye, Charles Darwin, Captain Christy, Earl Dufferin, Emilie Hausburg, J. S. Mill, La France, Prince Arthur, Pride of Waltham, Senateur Vaisse, Violette Bouyer, Victor Hugo, Marie Finger, Marie Rady, Duchesse de Vallombrosa.

Messrs. Harkness were first in the classes for twelve blooms of any light with, if we remember rightly, Mrs. J. Laing, followed by Messrs. Dicksons, Chester, with Merveille de Lyon. Only one stand of dark velvety Roses was, we think staged—namely, Jean de Lilliere by Messrs. Perkins & Son, a variety of the Prince Camille de Rohan type originally obtained from Mr. Bennett, and was awarded the first prize. For stands of blooms of any other colour, Messrs. Frettingham, (Beeston), Perkins, and Dicksons secured the prizes, the first and last with Marie Baumann, and the second with A. K. Williams. Several creditable stands were exhibited in the local amateur classes, and altogether, judging by the crowds that flocked round them, the Roses though numerically weak, were a very strong feature of the Show. There was a beautiful display of floral table decorations from Messrs. Jenkinson and Sons, Newcastle, for which we understand a silver medal was granted, and these exhibitors had the rare honour of defeating Messrs. Perkins & Sons with both bridal and ball bouquets. It was a case of freedom against formality, and freedom won.

Of fruit, as has been said, there was a remarkable display, and a remarkable event occurred at the commencement of the judging, for that old hand at exhibiting and strong competitor, Mr. J. McIndoe, was disqualified. This was in the chief collection of fruit, and the first prize £10. The terms of the schedule were "nine dishes, to include two varieties of Grapes, one black and one white, three bunches of each, one

Melon and one Pine." Two Pines were staged, and hence the disqualification. The words "to include" led the exhibitor astray; but they ought not to have done, for specific words to include "one Pine" cannot very well mean the collection may include two Pines; all the same, it is desirable that only one possible meaning can attach to the terms employed in schedules. However, Mr. McIndoe had perhaps as good consolation as anyone could desire under the circumstances, for he was very properly adjudged the special prize that was offered by Messrs. Dickson, Brown & Tait of Manchester for the "best exhibit of fruit in the Show." The three prizes in the collection referred to fell to Mr. J. H. Goodacre, Elvaston Castle; Mr. R. Dawes, Temple Newsam; and Mr. T. Bannerman, Blithfield. Mr. Goodacre had heavy dishes of Black Hamburg and Foster's Seedling Grapes; Peaches, Nectarines, and Cherries being also well represented. In the collection of six dishes Mr. Bannerman was first with splendid Duke of Buccleuch and Black Hamburg Grapes, very fine Lord Napier Nectarines, and Royal George Peaches, a good Melon, and President Strawberries. Mr. W. Elphinstone, Shipley Hall, a close second. In the class for four bunches of Grapes in two distinct kinds Mr. Craven, gardener to J. Grant Morris, Esq., won the first position with splendid examples of Madresfield Court and Black Hamburg; Mr. Allsop, gardener to Lord Hotham, second; and Mr. Elphinstone third. Mr. A. McVinish, gardener to N. E. Curzon, Esq., Lockington Hall, was first with three bunches of Black Hamburg, Messrs. Craven and Bannerman following in splendid competition; and for Muscats the winners were Messrs. Elphinstone, McIndoe, and McVinish. In the any other white variety class Mr. Bannerman was first with Foster's Seedling and Mr. Allsop second, and in the corresponding black class Mr. Wilkes, gardener to Mrs. Meakin, and Mr. Craven were the chief winners with Madresfield Court. It may be said that the competition was severe throughout, and that about 300 bunches of excellent Grapes were staged. Melons were numerous, Peaches, Nectarines, Cherries, and Strawberries, fine huge fruits of James Veitch winning the chief prize for Mr. Elphinstone.

Vegetables in competition for the several prizes offered by Messrs. Carter and Co., Sutton & Sons, Webb & Co., and others brought out a splendid competition, and fine Mushrooms were staged for Mr. Bason's prizes. Cottagers staged both vegetables and small fruit well, the Society evidently doing great good in stimulating to high cultivation.

Among the special prizes offered was a silver medal to Mr. Jennings, gardener to Leopold de Rothschild, Esq., for magnificent Souvenir de Malmaison Carnation. Silver medals were also awarded to Messrs. Cutbush & Sons, London, and Messrs. Hewitt of Solihull for flowers. This is a mere outline report of a really fine Show, creditable alike to exhibitors and zealous officials, and appreciated by thousands who visited and passed through the beautiful grounds of Trentham. It may be added that Mr. Blair received an ovation at the luncheon, and in the course of a few months he will take with him the best wishes of all when he enters on his new career as host of the Trentham Hotel, of which a lease has been granted to him by the Duke of Sutherland.

WORKSOP.

THE third annual Exhibition of this new and progressive Society was held recently on the Newcastle Avenue Cricket Ground. Considering the years on the head of this, one of the latest interesting ventures of the town, it has made wonderful progress. In a great measure this is to be accounted for by the fact that the patronage and support from the outset has been of the very best the district could give, including the Duke of Newcastle, the Duke of Portland, Mr. Henry Vessey Machin (who may be put down as the father of the Rose portion), and all the leading gentlemen of the district, and many ladies. The Secretary is Mr. George Baxter, Worksop, assisted by his son, Mr. Arthur G. Baxter; the Treasurer, Mr. James Snow Whall; Vice-President, Mr. Henry Vessey Machin, J.P.; President, His Grace the Duke of Portland. The work of the Committee and officers of the Society had been well carried out, and nothing had been left undone which would tend to make the Show a success. The result of this was that not only was the large tent in which the Exhibition was held well filled, but the number of exhibitors was much in excess of last year, numbering 644, about 100 more than on either of the two previous occasions.

The show of Roses was hardly up to expectations, either as regards quantity, number of exhibitors, or the quality of the exhibits. This is solely to be accounted for by the singularly unsatisfactory sort of weather which for the last three weeks has prevailed over the county, coming at a time when Roses in general were approaching their best. Still the display was of a very high order, and many of those who visited the Exhibition would not have known, unless told, that many of the Roses were what is known as "grubby," this being due to the wet weather, which had also dashed to some extent many of the finest blooms. Among the successful exhibitors of Roses were Messrs. H. V. Machin, Gateford Hill; H. Merryweather & Son, Southwell; F. Cant, Colchester; B. R. Cant, Colchester; Mrs. Alderson, Worksop; Mrs. Mellish, Hodsock; Thos. Clifton, Gateford; Chas. Stubbings, Gateford; Samuel Howard, Carlton; Henry Stewart, Carlton; John Padley, Carlton; A. Whitlam, Carlton; George Howard, Carlton; J. Stanley, Carlton; Alfred Barker, Gateford; G. W. Jones, Worksop; Richard Lee, Worksop; A. Simpson, Worksop.

Among the non-competitors who exhibited were the Duke of Portland, a magnificent group of plants in flower and otherwise, and he also sent a quantity of flowers and plants for decoration purposes; the Duke of

Newcastle, shrubs and flowers; Mr. H. V. Machin, Gateford Hill, his collection including plants of a very interesting nature; Messrs. Fisher, Sons & Sibray, plants and Roses, the former being banked in a capital manner at one end of the tent—a collection of stove and greenhouse plants; T. Marris, Worksop—a fine lot of tuberous Begonias, at one end of the staging; Bruce Greaves—Pansies and Ferns in particular; Elston & Son—a show of Gaillardias; Brown, Dixon, & Tait, Manchester—a stand of plants and some fine trays of Roses; and Messrs. Cant of Colechester, whose display of Roses was very fine indeed. Messrs. Pearson & Sons of the Chilwell Nurseries, Nottingham, sent for exhibition a most magnificent cross, which was composed of white Lilies and Ferns set on a ground of black velvet. This was one of the best things in the florists' art, and attracted all who entered the Exhibition.

A special feature of the Exhibition was a fine display of garden Roses from the garden of Mrs. Mellish, Hodsock. These attracted particular attention, and were a good addition to the attractions of the whole. There was shown by Mr. Mallinder of Hodsock a new bloom not yet in commerce in England, known as Duarte Olleive, which was shown for the first time at Chester a few days before, where it attracted considerable attention. Mr. Machin of Gateford Hill must be mentioned particularly as a competing and non-competing exhibitor, and the numerous specimens sent by him from his gardens at Gateford were of the greatest merit considering the sort of weather, which has made it next to impossible to bring Roses to exhibition this year in a perfect condition.—(*Retford Times*.)

NATIONAL PINK SOCIETY.—NORTHERN SECTION.

THE Northern Show of the above Society was held in the Botanical Gardens, Manchester, on Friday, July 22nd, in connection with the Rose Show. There was about the same number of exhibitors as last year, but with the exception of Mr. Campbell's blooms the flowers generally showed the effects of the gale on the Tuesday before the Show, there being a palpable lack of quality in most of the stands.

In the class for twelve blooms, six at least dissimilar, first Mr. Campbell, florist, Blantyre, N.B., with two blooms of Boiard, both very fine; Fellowes's Pandora, a fine back-row flower; Minerva, Leah, Mr. Campbell, a fine flower; Mr. James Minty, a promising flower; Godfrey, Emmeline, with very fine broad petal; Grace Simon, very rich in colour but the petal is faulty; Devise (Maelean's), a wonderfully fine bloom of this old variety, and Bertha, fine. Second, Mr. A. Brown, Handsworth, with Bessie, Amy, Minerva, a very fine bloom, which was also the premier red laced; Emerald, Modesty, fine; Empress of India, fine; Bertha, Zoe, Godfrey, very fine; and Harry Hooper. Third, Mr. S. Barlow. Fourth, Mr. C. F. Thurstan.

For six blooms, dissimilar, first, Mr. Campbell, with Boiard, Minerva, John Drake, very bright; Princess of Wales, Emmeline and Modesty, both fine. Second, Mr. C. F. Thurstan, with Duke of York, Boiard, Modesty, Ada Louisa, and seedling marked $\frac{1}{2}^5$, which seems to be even finer than Duke of York. Third, Mr. J. Edwards, Blackley. Fourth, Mr. Barlow. Fifth, Mr. Beswick, Middleton.

For six blooms, three dissimilar, first, Mr. A. R. Brown, with Emerald, Bertram, and two each of Amy and Bertha. Second, Mr. Barlow, with Mrs. Dark (2), Boiard, Harry Hooper, Brown's Clipper, and James Thurstan. Third, Mr. Edwards. Fourth, Mr. Thurstan. Fifth, Mr. Taylor, Middleton.

For three blooms, one purple laced, one red laced, and one black-and-white, first, Mr. Taylor, with Miss Pomeroy, Alderman Thorpe, and a seedling. Second, Mr. Edwards. Third, Mr. Thurstan. Fourth, Mr. Bentley. Fifth, Mr. Barlow. Single bloom, purple laced, first Mr. Campbell, with a splendid bloom of Boiard; second, the same, with Emmeline. Third, Mr. Cliff, Leeds, with Boiard. Fourth, Mr. Brown, with Bertha. Fifth, Mr. Taylor, with a seedling. Sixth, Mr. Barlow, with James Thurstan. Red laced, first, Mr. Campbell, with Maelean's Clara, an old variety. Second, Mr. Brown, with a small bloom of Amy. Third, Mr. Campbell, with Godfrey. Fourth, Mr. Brown, with Modesty. Fifth, Mr. Thurstan, with Empress of India. Sixth, Mr. Barlow, with Mrs. Dark.

Collection of Pinks in bunches, first, Mr. T. Walkden, Moorside Nursery, Sale, with a fine collection of border varieties.

The premier purple laced was Boiard, exhibited by Mr. Campbell in the single bloom class. The premier red was Minerva in Mr. Brown's stand of twelve.

LINARIA PELORIA.

At the Drill Hall on July 14th, the Floral Committee of the Royal Horticultural awarded Mr. W. Marshall a first-class certificate for a specimen of this plant, of which a flowering spray is represented in fig. 13, is an example of a peculiar phenomenon that is occasionally observed in flowers, and is termed Peloria. This consists in the transformation, or, according to some botanists, the reversion, of what are usually irregular corollas to a regular form. For example, in the Linarias and Antirrhinums the corollas have commonly a two-lipped form, to which the term "personate" is applied, the chief difference between the two being that the corollas of the Linarias are furnished with a spur at the base, and those of the Antirrhinum are without this appendage. In the case of the variety Peloria, however, this two-lipped form quite disappears, the upper part assuming a conical shape with the extremity five-cleft and sharply revolute, the base being

furnished with five spreading spurs, giving the flowers a totally different appearance.

The species itself is an attractive plant, but this variety is superior to it, as the flowers are produced so abundantly that they form a dense spike 6 to 9 inches or more in length, and of an extremely pleasing yellow colour. As a garden plant it is much appreciated both on account of its peculiarity and its beauty, and as it is readily increased by its roots a stock can soon be obtained. Occasionally fine specimens may be seen at exhibitions where classes are provided for hardy plants, and they form some of the most effective for such collections.

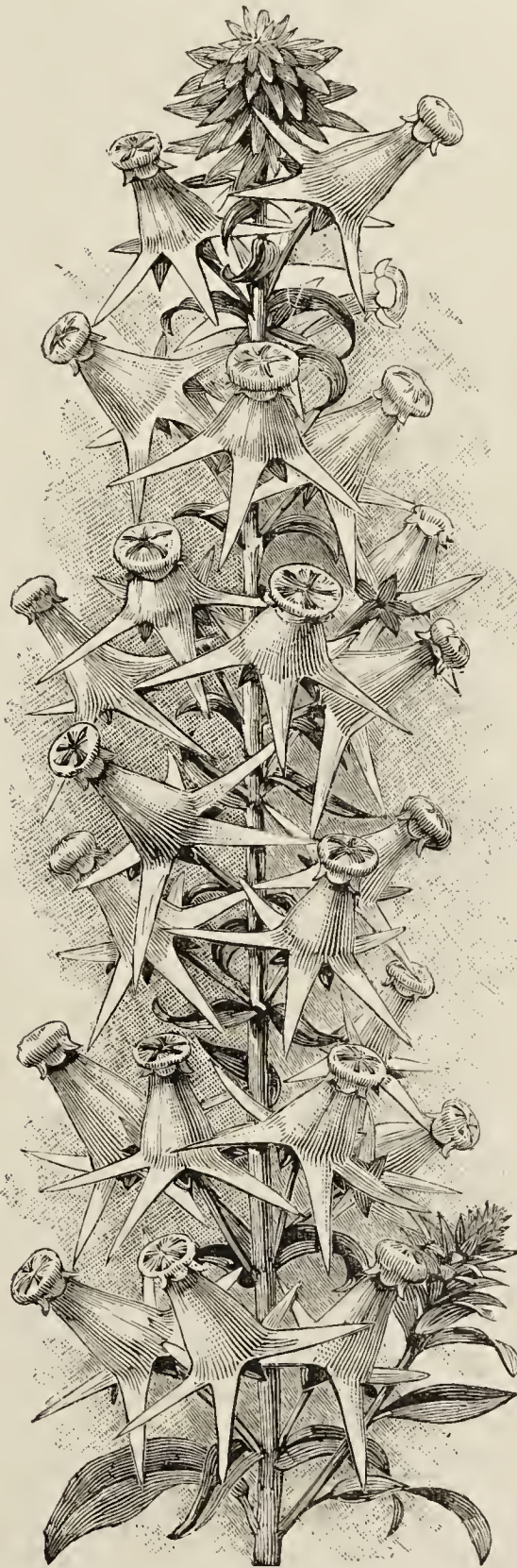


FIG. 13.—LINARIA PELORIA.

Though not very common, this Linaria has been long known both to cultivators and botanists. Plants of the variety Peloria have been found wild in several parts of Great Britain, but it is rare.

NATIONAL CARNATION AND PICOTEE SOCIETY. SOUTHERN SECTION.—JULY 26TH.

THE annual Exhibition of the Southern Section of the National Carnation and Picotee Society was held in the Drill Hall, Westminster, on the above date. It was the opinion of a well-known expert that the Society has never had a finer Exhibition, the blooms staged being numerous and of a first-rate quality. In some classes they were beyond the usual standard, whilst in others the various exhibitors fully maintained their reputation as florists. The names of the principal prizewinners are embodied in the following notes.

CARNATIONS.

In the class for twenty-four Carnations of not less than twelve varieties there were five competitors, and the competition was very keen. Eventually, however, the first prize was awarded to Mr. J. Douglas, Great Gearies, Ilford. The varieties shown by this exhibitor were as follows:—Back row: Homer, Thalia, Chas. Henwood (two), Eurydice (seedling), Lady Mary Curry (seedling), Phœbe, and a seedling. Middle row: Phœbe, Robert Lord, Rob Roy, Robt. Houlgrave, Virgil (seedling), Alisemond, and W. Skirving. Front row: Sarah Payne, Mrs. J. Graham, seedling (three), Miss C. Graham, J. Crossland, Rob Roy. Mr. C. Turner, Slough, was second; the other prizes going to Messrs. Rowan, Clapham, and F. Hooper, Bath. The flowers were good in each case. Mr. Rowan was first for twelve blooms, showing grand flowers. The varieties were Thalia, J. S. Heddersley, George Melville, Robert Lord, J. D. Hextall, Gordon Lewis, Alisemond, Sarah Payne, Alfred, Sportsman, Edward Rowan, and Robert Houlgrave. Mr. C. Phillips, Reading, was second; Mr. H. W. Headland, Leyton, third; Mr. G. Chaundy, Oxford, fourth; and Mr. R. Vesey, Clapham, fifth. Mr. J. Keen, Southampton, secured the first prize for six blooms, showing Sarah Payne, Gordon Lewis, Lovely Mary, W. Skirving, Fred, and Matador. Mr. J. Lakin, Oxford, was second; Mr. T. Catley, Bath, third; Mr. F. Nutt, Southampton, fourth; Mr. W. L. Walker, Reading, fifth; and Mr. T. Anstiss, Brill, sixth.

Single specimens were numerous and well shown. Mr. Lakin had the best rose-flaked, showing a grand bloom of Sybil. Mr. Turner was second, and Mr. Hooper third. Mr. Douglas showed the best scarlet bizarre; and Mr. J. Keen had the best purple flaked, a fine bloom of George Melville. Mr. Hooper and Mr. Rowan were also first prize-winners for single specimens.

PICOTEEES.

These were very good. For twenty-four blooms, not less than twelve dissimilar varieties, there were five competitors, the blooms in each stand being even and fresh. Mr. Douglas was again first with excellent flowers. His stand comprised:—Back row: Seedlings (four), Liddington's Favourite (two), Mrs. Bower, Brunette. Middle row: Her Majesty (two), Violet Douglas, Brunette, Miss Floudy (seedling), Mrs. Bower, and Lady Holmesdale. Front row: Seedlings (five), Lady Holmesdale, Amy Lord, and Mrs. Sharp. The premier Picotee bloom in the Show was in this stand. It was a remarkably fine Liddington's Favourite. Mr. C. Turner was second; Mr. Rowan third; and Mr. J. Walker, Thame, fourth. For twelve Picotees, dissimilar, Mr. C. Phillips was first, showing a stand of grand blooms. The varieties were Jessie, Zerlina, Orlando, Muriel, Brunette, Mrs. Ricardo, J. B. Bryant, Mrs. Sharp, Lady Curzon, Moura, Mrs. Gonton, and Tourist. Mr. W. Headland was second; Mr. Rowan third; Mr. Chaundy fourth; Viscountess Chewton fifth, and Mr. Vesey sixth. Mr. J. Keen was placed first for six blooms, showing Norman Carr, Favourite, Ethel, Isabel Lakin, Madeline, and Clara Penson. Mr. Lakin secured a second place, the other prizes going to Mr. J. Rebbeck, Southampton; Mr. T. Catley, Bath; Mr. F. Nutt; and Mr. A. Green field, Sutton, Surrey.

For twelve yellow-ground Picotees, Mr. Douglas was first with grand blooms of Aurora, Mr. R. Sydenham, Remembrance, Lilian, Mrs. Henwood, and seedling. Mr. Turner was second; and Mr. C. Phillips third. Mr. F. Hooper, Bath, secured first honours for six yellow grounds; Mr. F. Nutt being second; Mr. F. Kew, Southend, third; Mr. J. Keen, fourth; and Mr. Lakin, fifth.

Single specimens of these were also numerous. Mr. Keen was first for the pink heavy edged, showing a fine bloom of Mrs. Sharp. Mr. Douglas secured first honours for the heavy-edged purple, a fine bloom of Muriel. Mr. Turner was first for a light-edged crimson, showing Thos. Williams, Mr. Headlands being second.

MISCELLANEOUS SELFS AND FANCIES.

Mr. C. Turner was awarded first for twenty-four blooms, twelve dissimilar varieties. Mr. Douglas was a close second with a stand of grand blooms; the other prizewinners being Martin Smith, Esq., third; Mr. Rowan, fourth; Mr. Hooper, fifth. Mr. J. Keen secured first honours for twelve blooms dissimilar, the second prize going to Mr. Nutt. Mr. W. Headland and Mr. Anstiss were also awarded prizes in this class.

Mr. Turner was first with twelve specimens in pots, the varieties shown being Harmony, Romulus, Tona, Mrs. L. Jamison, Charles Henwood, King of Scarlets (good), Duchess of Sutherland, Ruby, Favourite, Mrs. Clements, Victory, and Mrs. Nicholay. Mr. Douglas was second, and Mr. Martin Smith third. Mr. M. Rowan was awarded "The Gardeners' Magazine" silver medal for general excellence.

MARTIN SMITH PRIZES.

These prizes were offered by Martin Smith, Esq., with a view to encourage the culture of border Carnations, the exhibits being staged without "dressing." Mr. J. Douglas was first for the best border variety, showing a bright scarlet seedling named Oriflamme. Mr. Thoday, Willington, Cambs, was second with a new white seedling, Florence Emily Thoday, and Mrs. Jones, Kensington (gardener, Mr. W. Barton), third. For six self-coloured varieties Mr. F. Hooper was first with Gaiety, Queen of Purple, a seedling white, Lady Constance, Gluck, and Lady Cavendish. The second prize went to Mr. Douglas, and the third to Mr. Herrington, Shrubland Park, Suffolk. Mr. Hooper was also first for nine varieties, any section, Mr. Douglas coming in second. Mr. Douglas secured leading honours, however, for flaked Carnations and Picotees in this section.



STOCKPORT SHOW.

THE Stockport and District Chrysanthemum and Fruit Show has been fixed for Friday and Saturday, November 18th and 19th. Schedules are now being issued.

NATIONAL CHRYSANTHEMUM SOCIETY.

FOR several years past it has been the practice of this Society to arrange an annual outing or holiday for its members. When first commenced the party was comparatively small, but so attractive has the annual picnic become that a large party of the members are now found partaking in the holiday. The outing for this year took the form of a visit to Penshurst Place, Kent, the seat of Lord De Lisle and Dudley, and Redleaf, the residence of F. C. Hills, Esq., which is midway between Penshurst Station and Penshurst Place. A party of seventy persons left Charing Cross by an early train, prominent among them were Mr. R. Ballantine, Chairman; Mr. R. Dean, Secretary; and Messrs. A. J. Veitch, N. Davis, G. Stevens, B. Wynne, G. J. Ingram, &c., several ladies also joining the party. Penshurst Station was reached at eleven o'clock, and the company proceeded to the eastern entrance to Redleaf, where they were met by Mr. W. Holah, the gardener, and conducted through the grounds. Redleaf is well known as one of the prettiest and best kept places in the county of Kent; it is finely undulated, well wooded, and from certain eminences very fine views can be obtained of the surrounding country. At every point the visitor comes upon some objects of great interest. The mansion occupies a commanding position near the roadway to Penshurst, it is modern in style and commodious. There is a handsome terrace garden which is extremely gay, and from this point the grounds fall away in delightful undulations. There are many fine timber trees, some splendid examples of Coniferae, choice deciduous trees and shrubs, and a luxuriant undergrowth of evergreens. Adjoining the mansion is a spacious fernery charmingly arranged, and having in the centre a crystal fountain; there are also plant and Orchid houses. About the grounds are examples of various styles of flower gardening, lovely dells, and cool grots; the forcing houses and kitchen gardens are examples of high culture.

Leaving Redleaf by Mr. Holah's residence the party entered the spacious park of Penshurst, with its noble timber trees of Beech, Oak, Elms, &c., its acres of Ferns, and its stretches of hill and dale. Near the Castle is the cricket ground, and a match of cricket was at once commenced between elevens representing the National Chrysanthemum and the Sevenoaks Gardeners' Society, the former captained by Mr. E. Rowbottom, and the latter by Mr. S. Cooke. At two o'clock a party of 100 sat down to dinner in a spacious tent erected within the park, Mr. R. Ballantine presiding. At the close of an admirably served repast the health of Lord De Lisle, with thanks for the permission to visit the Castle grounds, was proposed by the Chairman, and that of Mr. F. C. Hills by Mr. R. Dean, who made reference to the fact that sixty or seventy years ago Mr. William Wells, who resided at that time at Redleaf, was a noted horticulturist, and one of the first to cultivate the Chrysanthemum for exhibition purposes. To these toasts Mr. F. Bridger, the gardener at Penshurst Place, and Mr. W. Holah, suitably responded. The cricket elevens were proposed by Mr. A. Wortley, at one time the Secretary of the old Stoke Newington Chrysanthemum Society, and a successful exhibitor many years ago, and responded to by Messrs. Rowbottom and Cooke. The healths of the Secretary and Chairman were also given. The cricket match was then resumed, and the London team eventually proved the winners, their opponents being out-played at all points. Meanwhile parties visited the Castle at intervals, and were conducted through the state apartments, with their many historical associations, the old-fashioned terrace gardens, and the kitchen garden department; the picturesque village and church were also inspected. Tea was served at half-past five o'clock. After tea came a go-as-you-please interval, and finally the party left Penshurst soon after eight o'clock highly delighted with the outing, which proved most successful in all respects. The weather was all that could be desired, and this portion of the county of Kent was seen to the best advantage.

ROSE SHOWS.

NORTH LONSDALE.—JULY 22ND.

THE ninth annual Exhibition of the North Lonsdale Rose Society, which is affiliated with the N.R.S., was held in the Drill Hall, Ulverston, on Friday last, and as usual much interest was taken in what is deservedly regarded as the most important floral fête in North Lancashire. The generosity of subscribers and donors of special prizes enabled the promoters to offer over £50 in addition to four bronze medals of the National Rose Society for Roses and a silver medal for Pansies. Owing to clashing of their fixture for the first time with the Manchester Rose Show, and again to the stormy weather which was experienced during the early part of the week, the display of Roses amongst the professional element was smaller than usual, but the

quality was equal to that of former years. Messrs. Dicksons, Limited, Chester, and Messrs. Harkness, Bedale, did not put in an appearance, so the battle was fought out between Messrs. Dickson & Sons, Newtownards, Co. Down, B. R. Cant of Colchester, and Mr. J. Crombie of Barrow. The representatives of the Emerald Isle carried all before them, taking the first prize in each of the nine classes. Their Roses were remarkable for size, perfect shape, and splendid colour, in a word admirable. Their new seedling Mrs. W. J. Grant, which was awarded the gold medal at Chester on the 16th, had again a first-class certificate appended to it. Mr. B. R. Cant made a splendid show, as did also Mr. J. Crombie. Amateurs showed in much better form than usual, J. H. Midgley, Esq., J.P., of Grange, carrying off no fewer than six firsts, one second, and a third in addition to three bronze medals; the other being awarded to Mr. John Abbott, Greenodd. Other fortunate exhibitors were the Rev. R. T. Langtree, Grange, and Mr. J. T. Marsden, Silverdale. There was also a grand display of Pansies, the principal winners being Mr. H. Rothery, Pennybridge, who was also awarded the silver medal; Mr. A. Ratson, Kendal; Mr. George Browne, Troutbeck; and Mr. J. Sharp, Carnforth. Mr. George Paul, Bridge of Weir, exhibited a splendid stand not for competition. Another very attractive feature of the Show was the beautiful assortment of hand and table bouquets.

The following are the principal prizetakers, but as the blooms are all the same varieties which have already been exhibited this season it is not necessary, except in one or two instances, to repeat the names. Roses (open class).—Twenty-four Roses, distinct, three trusses of each.—First, Messrs. Alex. Dickson & Sons, Newtownards; second, Mr. B. R. Cant, Colchester. Forty-eight, distinct, single trusses.—First, Messrs. A. Dickson & Sons; second, Mr. B. R. Cant. Twenty-four, distinct.—First, Messrs. A. Dickson & Sons; second, J. Crombie, Barrow. Eighteen Roses, distinct, six dark and six light H.P., and six Teas or Noisettes.—First, Messrs. A. Dickson & Sons; second, Mr. J. Crombie. Twelve Teas or Noisettes.—First, Messrs. A. Dickson & Sons; second, Mr. J. Crombie. Twelve single trusses, any dark H.P.—First, Messrs. A. Dickson & Sons; second, Mr. B. R. Cant. Twelve single trusses, any light H.P.—First, Messrs. A. Dickson & Sons, with La France; second, Mr. B. R. Cant. Twelve new Roses, distinct.—First, Messrs. A. Dickson & Sons, the same exhibitors taking the prize for the best seedling Rose with Marchioness of Londonderry, and the best Rose in Show with the same variety.

In the amateurs' section Mr. J. Curwen, gardener to J. H. Midgley, Esq., secured first prizes for eighteen Roses distinct, six R. ses distinct, light or dark varieties, six Teas or Noisettes distinct, best light bloom H.P. with La France, best dark H.P. bloom with Marie Baumann (bronze medal), best Tea or Noisette with Souvenir d'Elise Vardon (bronze medal). Mr. J. McKay, gardener to Rev. R. T. Langtree, was first for twelve Roses and four Roses. Mr. J. Abbott secured a bronze medal in local classes for La France, and also first for six Roses distinct. The first in the class for those who have never won a prize was taken by Mr. Casc, Lyndene, Ulverston. For three Roses Mr. T. Higgin, and the prize for six, any light or dark, by Mr. C. Watson, Station, Ulverston. The best bouquet came from Mrs. Woodburne, Thurstonville. Space will not permit referring further to Pansies, but the principal prizewinners have been already mentioned. Mr. G. H. Mackerett (Hon. Sec.), Mr. T. Parker (Assist. Hon. Sec.), Mr. T. W. Mason (Chairman), Mr. H. Longson (Hon. Treasurer) and the excellent Committee deserve every credit for the way in which all was brought to a successful issue. The medals were presented to the winners during the afternoon by Mrs. Myles Kennedy, Ulverston.—R. P. R.

MANCHESTER.—JULY 22ND AND 23RD.

In addition to the attractions of "Old America" at the Manchester Royal Botanical Gardens there was held on the above dates the annual Rose Show of the Manchester Royal Botanical and Horticultural Society, and in conjunction with it the Exhibition of the National Pink Society. Fine weather favoured both the opening and the second day, being for all but the flowers in the Exhibition a most agreeable and pleasant change. Under the expansive glass roof of the avenue where the exhibits were staged the hot sunshine and the heated atmosphere made serious inroads on the quality and the freshness of the flowers, the Roses especially. The exhibits of Roses were somewhat below the numbers of previous years, doubtless owing to the unusually stormy and wet weather of the preceding days. The Exhibition, however, was good as a whole, considering the weather recently experienced.

The following are the awards:—Nurserymen's class, seventy-two distinct, single trusses.—First, Messrs. Harkness & Sons, Bedale, Yorkshire. These northern growers had splendid blooms, beautifully fresh, clean, bright, and even. The varieties were—Back row: Mrs. J. Laing, Marie Baumann (superb), Mons. Noman, Marie Verdier, Viscountess Folkestone, Heinrich Schultheis, Duchesse de Vallombrosa, Alfred Colomb, Gustave Piganeau (good), La France, Alphonse Soupert, Comtesse de Serenye, Suzanne Marie Rodocanachi, François Michelin, Prince Arthur (rich), Mrs. Geo. Dickson, Ulrich Brunner, The Bride, Earl of Dufferin (small, but full bloom), Princess Beatrice, Dr. Andry (handsome), Lady Mary Fitzwilliam, Marie Rady, and Captain Christy. Second row: Dupuy Jamain (excellent), Magna Charta, Général Jacqueminot (deep, rich), Maréchal Niel, Fisher Holmes (splendid), Queen of Queens, A. K. Williams (magnificent), Baroness Rothschild, Star of Waltham (perfect), Mons. E. Y. Teas, Mary Bennett, Reynolds Hole, Madame Hoste, Maurice Bernardin (splendid), Marquise de Castellane, Victor Hugo, Violette Bouyer, Duchess of Bedford, Innocente Pirola, Charles Lefebvre (magnificent), Souvenir d'Elise Vardon, Comte de Raimbaud, Madame Cusin, Etienne Levet. Front row: Marie Finger,

Beauty of Waltham, Elie Morel, Camille Bernardin (superb), Merveille de Lyon (excellent), Rosieriste Jacobs (good), Pride of Waltham, Baron Haussman, Duc de Rohan (splendid), White La France, May Quennell (full, good), Merrie England, Barthélemy Joubert, Mr. Harkness, Alfred Dumesnil, Catherine Mermet, Madame Charles Wood, Madame Gabriel Luizet, Charles Darwin, Her Majesty (good), Horace Vernet (good), Madame Joseph Desbois, Countess of Oxford, Duchesse de Morny (splendid). Gustave Piganeau was the best bloom in the collection, being regular developed, with splendid full centre. Mr. H. Merryweather, Southwell, Notts, was second, and Messrs. Cranston & Co. Limited, Hereford, third.

In the class for thirty-six distinct, three trusses of each, Mr. H. Merryweather, Southwell, was first with Mrs. John Laing, Maurice Bernardin, La France (excellent blooms), Earl of Dufferin (treble unnamed), Gustave Piganeau, Captain Christy, Souvenir d'Elise Vardon, Duchess of Albany, Gloire de Margottin, Francisca Krüger, Etienne Levet, Marie Van Houtte, Victor Hugo (good), Antoine Ducher, Comtesse de Serenye, Baroness Bothschild, Dr. Andry, Catherine Mermet (good), Violette Bouyer (splendid), Thomas Mills, Souvenir d'un Ami, Suzanne Marie Rodocanachi, Star of Waltham, Madame Hoste, Marie Baumann (splendid), Viscountess Folkestone, Madame G. Luizet, A. K. Williams, Comtesse Hy. Pignon, Grandeur of Cheshunt, Heinrich Schultheis, Madame Lambard, The Bride (very good), and Mons. E. Y. Teas. The above were a bright, excellent, well grown, and selected collection. Messrs. Cranston & Co., Limited, Hereford, were second, having good blooms of Mons. E. Y. Teas, La France, Marie Baumann, Marquise de Castellane, Etienne Levet, Marie Verdier, Suzanne Marie Rodocanachi, Ulrich Brunner, Her Majesty, and Catherine Mermet.

With eighteen Teas or Noisettes, three trusses of each, and twelve Teas, Mr. H. Merryweather was the only exhibitor, and was worthily awarded the first prizes. The collection included grand blooms of Souvenir d'Elise Vardon, Princess of Wales, Madame de Watteville, Madame Hoste (good), Luciole, The Bride, Marie Van Houtte, Madame Lambard (splendid), Souvenir de S. A. Prince (very good), Catherine Mermet, and Comtesse de Nadaillac. His twelve bloom stand contained Souvenir d'un Ami, Caroline Kuster, Catherine Mermet (fine), Innocente Pirola, The Bride (very good), Madame Willermoz, Madame A. Etienne, Francisca Krüger, Marie Van Houtte, Ernest Metz (good), Jean Ducher, and Madame Lambard (fine). Mr. Merryweather was also first with twelve single trusses of any white Rose, his stand being composed of Merveille de Lyon, some being in fine condition, others too far developed. For twelve single trusses of any crimson Rose, Messrs. Cranston and Co., Hereford, took first with fine blooms of A. K. Williams of varying quality. Messrs. Cranston also received an extra prize for a splendid box of twelve single trusses of Mrs. John Laing, the blooms being nearly equal in merit throughout and forming a very commendable exhibit.

In the amateurs' division the Rev. J. H. Pemberton, Haverling Romford, took the leading place in three classes, only meeting, however, with opposition in one. In the class for thirty-six, distinct, single trusses, Mr. Pemberton had a remarkably fine, fresh, richly coloured, and moderately even collection. The varieties staged were:—Back row: Etienne Levet (good), Eugénie Verdier, Comtesse Raimbaud (beautiful), François Michelin, Suzanne Marie Rodocanachi, Countess of Oxford, Earl of Dufferin (boldly built, but slightly disfigured), Ulrich Brunner, Sir Rowland Hill (grand), William Warden, Exposition de Brie, Madame Charles Crapelet. Middle row: Baroness Rothschild (grand, large bloom), Duchess of Bedford, Duchess of Albany, Madame Prosper Laugier, Horace Vernet (magnificent), Grandeur of Cheshunt, Marie Baumann (splendid), Barthélemy Joubert, Heinrich Schultheis, Countess of Rosebery (good), La France (excellent), Duke of Teck. Front row: Marshal P. Wilder, A. K. Williams, Rosieriste Jacobs, Queen of Queens, Camille Bernardin, Pride of Waltham (very good), Merveille de Lyon, Mrs. Charles Wood, Madame Victor Verdier (compact), Auguste Rigotard, Pride of Reigate, Dr. Andry. In the class for twelve distinct, three trusses, Mr. Pemberton was again the only competitor, and consequently took the leading position with an exceedingly good stand, showing a careful selection of varieties, including Prosper Laugier, Suzanne Marie Rodocanachi, Charles Lefebvre, Pride of Waltham, Beauty of Waltham (very good), Ulrich Brunner, La France, Madame Charles Crapelet (very good), Catherine Mermet, Marshal P. Wilder (fine), Merveille de Lyon, Prince Arthur (beautiful). In the class for twelve Teas or Noisettes Mr. Pemberton was again first with a beautiful stand of excellent blooms, including Madame Bravy, Ernest Metz (very good), The Bride, Belle de Bourdeau, Francisca Krüger (good), Souvenir d'un Ami, Bouquet d'Or, Catherine Mermet, Madame Lambard, Innocente Pirola, Comtesse de Nadaillac, Mrs. James Wilson. The second prize was secured by S. Barlow, Esq., J.P., Castleton, whose blooms were very good, especially Comtesse de Nadaillac, Madame Lambard, and Anna Ollivier.

In the class for twelve single trusses of any white Rose, Chas. Brown, Esq., Plumley, obtained first prize with a grand box of Merveille de Lyon, there being no second. In the class for twelve single trusses of any crimson Rose only one exhibitor staged, Chas. Burgess, Esq., Plumley, securing first with a superb even box of Marie Baumann, only one of which had developed too far. Some of them were exceedingly rich in colour. An extra prize was awarded the Rev. J. H. Pemberton for a splendid box of twelve single trusses of Mrs. John Laing, very regular in size, shape, and shade of colour, being equal, with one or two exceptions, to Messrs. Cranston's similar box.

In the section for district grown Roses, open only to residents within twenty miles of Manchester, the first class was for twenty-four distinct,

single trusses, in which Thos. Tatham, Esq., Wilmslow, was first with an exceedingly creditable collection. The varieties were:—Charles Lefebvre (fine), Captain Christy (good), Suzanne Marie Rodocanachi, Her Majesty, Caroline d'Arden, La France, Mons. E. Y. Teas (rich), Duchess of Bedford, Elie Morel, Dr. Andry, Eugénie Verdier, François Michelin, The Bride (neat and fresh), Ulrich Brunner, Viscountess Folkestone (very fine), Pride of Reigate, A. K. Williams (fine), Catherine Mermct, Louis Van Houtte, Madame Hoste (good), Alfred Colomb, Marie Baumann, Lady Mary Fitzwilliam, Mrs. John Laing. Chas. Burgess, Esq., Plumbley, was second with good examples, the best being Mrs. J. Laing, Her Majesty, Sir R. Hill, Pierre Notting, and Duchess of Bedford. Third, James Brown, Esq., Heaton Mersey, who had some excellent Tea Roses in his collection, including The Bride and Ethel Brownlow. There was also a fourth stand, which is mentioned to show that this class was one of the keenest contested in the Exhibition. Mr. Chas. Burgess, Plumbley, was placed first in the class for twelve distinct single trusses, Mrs. J. Laing being his best bloom, followed closely by Marie Baumann; the others were Her Majesty, Earl Dufferin, Francis Courtin, Countess of Rosbery, Merveille de Lyon, A. K. Williams, Marquise de Castellane, Rosieriste Jacobs, Anna Wood, and Pride of Waltham. Thos. Tatham, Esq., Wilmslow, was second; and A. Gladstone, Esq., Wilmslow, third. Mr. Chas. Burgess was again to the front in the class for six distinct single trusses, which included François Michelin, Earl Dufferin (really splendid bloom), Marie Baumann, Her Majesty (very full), Mrs. J. Laing, Lady H. Stewart, a small bloom but richly coloured. A. Gladstone, Esq., Wilmslow, was second with a good stand, though too much developed. Marie Baumann was the best bloom, and Captain Christy remarkable for its deeply coloured central petals. Thos. Tatham, Esq., was third.

In the nurserymen's class for bouquets of Roses Messrs. Perkins and Son, Coventry, were first. In the district class for a bouquet of Roses, Jas. Brown, Esq., Heaton Mersey, and Miss Lord, Oakleigh, Ashton-on-Mersey, were awarded equal firsts. Extra prizes in addition to those mentioned previously were awarded to Messrs. Dicksons, Limited, nurserymen, Chester, for a splendid collection of Roses and herbaceous flowers, and to Messrs. Laing & Mather, nurserymen, Kelso, N.B., who exhibited some splendid boxes of Malmaison Carnations, pink and blush; also Carnation Germania and a miscellaneous stand of some of the most useful garden varieties. Some beautiful boxes of Roses not for competition were shown by Messrs. Dickson and Robinson, 12, Old Millgate, Manchester, and by Dickson, Brown, and Tait. A collection of Sweet Peas, all beautiful named varieties of new and novel colours exhibited by Mr. Henry Eckford, Wem, Salop, was highly commended. Mr. N. Campbell, High Blantyre, was awarded an extra prize for a stand of seedling Pansies.



FRUIT FORCING.

Vines.—*Vines in Pots for Early Forcing.*—The Vines that are to be started in November should now have the wood thoroughly ripe and the buds plump. When that is not the case keep the house rather warmer by day, say at 80° to 85°, closing early so as to run up to 90° or 95°, and throw the house open at night—not suddenly, but after the heat has considerably declined. Supply water or liquid manure, so as to keep the leaves from flagging. Expose the foliage fully to light and air. Keep the laterals well in check, leaving no more than are absolutely necessary to appropriate any excess of nutriment, and so prevent the principal buds starting. When the wood is brown and hard and the buds are prominent they should be removed to a situation outdoors, standing them on slates or boards in front of a south wall or fence, securing the canes to the face of the wall. Only give water to prevent the foliage flagging and falling prematurely, and have some waterproof material at hand to throw over the pots when heavy rains prevail, as a saturated condition of the soil is not favourable to the preservation of the roots. In this position they will have some rest, even if the leaves are not actually shed. When the leaves turn yellow cut away the laterals close to the cane, and in a week or ten days, if the buds are not started at the upper part of the cane, shorten it back to the length required, and place the Vines in an airy, cool, dry place until required for forcing. Keep them dry at the roots, and yet not so dry as to cause them to shrink, but just moist enough to keep them fresh. They are best kept in a north house, where they are cool yet safe from frost. If frost has access some dry protective material should be placed about and over the pots to keep the roots intact.

Planted-out Vines Required to be Early Forced.—Vines that have not been started early will need, as soon as the crop is off, to be thoroughly cleansed by syringing and the application of an insecticide where red spider and thrips have obtained a footing, and if there is any doubt about the ripeness of the wood or the plumpness of the buds it will be necessary to keep the house rather close by day, but with sufficient ventilation to cause evaporation and allow the moisture to escape. Sufficient water must be given at the roots to prevent the

leaves becoming limp. It is also a good plan to cut back the growths to within three or four leaves of the pruning buds. This assists them to plump the latter, and there is no danger of their starting unless the Vines are unusually vigorous. If the weather is cold and moist employ fire heat in the daytime to maintain a temperature of 70° to 75° with moderate ventilation, and turn the heat off in the afternoon to allow the pipes to cool. Increase the ventilation at night so as to promote a thorough draught, and this will soon cause the wood to harden and the buds to plump, inducing rest, which for Vines that are to be started in December should be complete from the middle to the end of September, when the Vines must be pruned. With the wood thoroughly ripe ventilate fully day and night.

Earliest House.—The Vines will now require a dry atmosphere to thoroughly ripen the wood, but it will not be necessary to employ fire heat. All laterals and late growths must be kept stopped, and complete rest induced by having the border cool and moderately dry. Inside borders may require water, for they must not be allowed to become parched and cracked, but where they have been mulched it may not be necessary. Outside borders will be moist enough, and may need covering with dry litter or bracken in order to throw off heavy rains. This is essential to insure complete rest, which is so needful to Vines long subjected to early forcing, a too moist condition of the soil tending to late growth. But there must be sufficient moisture to maintain growth in the laterals in order to prevent the premature ripening of the foliage. In most cases it will be sufficient to allow a moderate extension of the laterals, and where the Vines are in an unsatisfactory condition prepare for lifting at an early date, getting fresh loam and clean drainage, so that the work can be done quickly when started. It is desirable to lift the roots and lay them in fresh soil nearer the surface whilst there is foliage upon the Vines, therefore work of this character ought not to be delayed beyond the close of the present month in the case of Vines that are to be started early in December, for they will need pruning by the middle of September, or in the case of lifted Vines a little later.

Second Early Houses.—The Vines will now be freed of their crops, and should have the foliage cleansed by means of the syringe or engine, and if necessary apply an insecticide. If there be any mealy bug or scale promptly use petroleum, a wineglassful to 4 gallons of water, keeping it well mixed whilst it is being applied, either by a few brisk squirts into the vessel and then alternate ones on the Vines and into the mixture, or by one person syringing into the vessel and another on to the Vines. This is imperative in using petroleum with clear water, and this is, provided the mixture is kept well agitated, much the best way to apply petroleum to Vines for the destruction of mealy bug and scale, as it does not, like petroleum emulsions, leave a deposit on the glass, which is difficult to wash off, and if allowed to remain deprives the Vines of a large amount of light. But the emulsions are more likely to insure an equal distribution of the petroleum, and we have found the following much easier of application than water and petroleum. Dissolve 8 ozs. of softsoap and 1 oz. of washing soda in 4 gallons of boiling water, add to it one-third of a gill of petroleum, and churn with an ordinary garden engine by pumping it into the vessel two or three minutes, and then it may be syringed over the Vines, the temperature of the mixture not exceeding 100°. Or keep the mixture thoroughly agitated by stirring briskly with a broom handle whilst being applied to the Vines, which must be done thoroughly, wetting every part. It is best done on a dull, calm afternoon, and should be repeated two or three times at intervals of a few days. If there be any plants they must be removed, and if the roots of the Vines are near the surface cover the border with dry short material to absorb the waste. This mixture will destroy red spider and thrips as well as mealy bug and scale. Keep the laterals fairly in hand, not closely pinched, unless the Vines are very vigorous and are not ripening the wood well, when keeping the house fully ventilated at night, and somewhat warm and close by day, will tend to the maturity of the wood and buds. In stopping vigorous Vines regard must be had to the principal or pruning buds, not stopping so close as to jeopardise their starting into growth through an excess of sap. Such Vines should also be kept without water until the young leaves are becoming a little limp, but it must not be withheld to the extent of affecting the main leaves. Vines, on the other hand, that have been enfeebled by continued cropping and early forcing or any other cause, should be encouraged to make growth by applying liquid manure to the border; but whatever extraneous foliage is made must not be allowed to interfere with the principal leaves by depriving them of light and air, for these must be kept clean and healthy, so that they may appropriate some of the extra food, and store it in the adjacent wood as well as aid the buds to plump.

THE KITCHEN GARDEN.

Mushrooms.—After a period of dry and moderately warm weather, this favouring a good spread of mycelium, a soaking rain followed by dull days has the effect of bringing up Mushrooms freely in the meadows. They are, or have been, very plentiful recently; but it frequently happens that when we get them thus early in the season there are few or none in the autumn. There is all the more reason, therefore, to form early beds, and in any case there is not much likelihood of there being too many Mushrooms in most places. A bed spawned during the first fortnight in August should commence bearing late in September, and continue to be profitable for several weeks. If house room proper is somewhat limited the earliest beds may well be formed wholly outside or in any moderately snug shed, reserving the space in the Mushroom house for the later beds, as the latter will most probably require some assistance in the shape of fire heat.

Preparing the Manure.—Nothing but horse droppings and a little very short straw should be used for flat beds, and these ought to be saved from horses fed on corn and other dry food only. These droppings should not be mixed with the straw, and all allowed to heat strongly before being separated, as this may spoil the manure by over-heating. Keep them apart as much as possible, and protect from heavy rains. When enough has been saved to form a good sized bed throw all up into a heap to ferment, very gently watering if at all dry. Directly the centre of the heap has become hot, and before it attains a white heat, turn it inside out, again watering if too dry to ferment properly. Repeat this treatment every other day till a fortnight has expired, taking care to ward off rains with either a heavy covering of litter, pit lights, or tarpaulin. Thus treated the manure will not have lost all its vitality, but only got rid of impurities. Decay must still go on after it is made into a bed, otherwise there will be no heat generated, and no suitable rooting medium for the Mushrooms.

Forming the Beds.—The beds may be of any length or width, but if much more than 4 feet across they are very awkward to get at. Form them in layers, thoroughly shaking out the manure, and separating any large flakes as the work goes on, also making it solid either by trampling or beating with the back of a fork, eventually leaving it about 14 inches deep at the back and 12 inches at the front. Plunge two or three trial stakes into the beds and frequently examine them. At first the heat should rise considerably, and not till it has declined to about 85°, this being when the trial stakes can, when drawn out, be borne comfortably in the palm of the hand should spawning take place. In anticipation of this good fresh spawn should be obtained from a reliable source, breaking each brick into about eight or ten pieces. Open shallow holes with the hand, and not a dibber, the latter making holes too deep, and in which steam may collect to an injurious extent. These holes may be about 8 inches apart and angled, the lumps of spawn being pressed in flatly and only slightly below the surface, the bed being then smoothed over and the spawn further fixed by means of a beating with the back of a spade. Return the trial stakes to the bed, and if the heat give no signs of rising again soil over in about three days, otherwise delay doing so for a week or longer or harm may result. Fine virgin loam, or such as separates from the potting turf, is the best that can be used for soiling Mushroom beds, and failing this substitute the best fresh soil procurable, that obtained from immediately below the first spit of loamy garden ground that has not recently been trenched answering well, an even thickness of 2 inches of soil is recommended. Should soiling over unduly raise the heat in the bed open a few deep holes and let out the steam. Directly the heat declines considerably mulch the bed freely with strawy litter, this conserving heat and moisture.

Open-Air Beds.—The present is a good time to start with these, and if properly managed they will produce heavier crops of better Mushrooms than any under cover. They must be ridge-shaped, and should be formed, if possible, where the coldest winds do not reach them, though a very hot site is not desirable. Also locate them where water does not accumulate, and where neither moles nor field mice have ready access, both being liable to upset the Mushroom grower's calculations. For these ridge-shaped beds horse droppings alone will not do. At least one-third of the bulk of manure used should consist of short stained straw, and that quantity is very frequently exceeded with advantage. Extra pains must also be taken on the lines already laid down in preparing the manure, ridge-shaped beds being more liable to become violently hot than those of much less depth. A bed may be of any length, but should not exceed a width and height of 3 feet, 6 inches less each way being the orthodox measurement. It should be duly staked out and built up in layers very solidly and neatly, being gradually narrowed so as to leave the top about 6 inches across. Give a gentle slope to the ends as well as the sides, as these have to be spawned, and comb all down, leaving the straw most exposed, this throwing off a moderate amount of rainfall. Insert trial sticks, examine, and otherwise treat as in the case of flat beds, the spawning being carried out in a very similar manner all over the bed other than immediately on the top, as the mycelium will reach that part fast enough. Guard against casing over too quickly, as this may cause a dangerous rise in the heat, and necessitate forming deep holes with an iron rod at short intervals down through the centre of the bed. Use moist soil of the character previously advised, and to the same thickness, but do not water and plaster it over, or injurious cracking is inevitable. When safe cover heavily with long straw litter, arranging this so as to throw off excessive rainfall.

Spawning Melon and Cucumber Beds.—When Melons in pits and frames are nearing their ripening period, not much more water being needed by the plants, lumps of Mushroom spawn may be inserted, not necessarily in the manure, with every prospect of abundance of Mushrooms being had later on. When the plants are cleared out, mulch the bed with strawy litter, and unless very dry there will be no necessity to water the beds, heavy rains being kept off by means of the lights. Cucumber beds may be similarly treated later on, or say by the end of August. All the sides, when ordinary frames are placed on hotbeds generally, should also be spawned at once, and cased over with soil as advised in the case of ridge-shaped beds, and further covered with strawy litter, Mushrooms being produced in abundance six weeks hence. Even raised Vegetable Marrow heaps should be spawned, these sometimes yielding heavy crops of Mushrooms both before and after the collapse of the Marrows. In this instance nothing beyond inserting lumps of spawn is necessary to insure success.

THE BEE-KEEPER.

APIARIAN NOTES.

THE WEATHER.

WE had two hours of really summer weather on the 17th, very changeable and fluctuating temperature on the 18th, and on the 19th another severe storm of wind and rain. The barometer rose on that night from 29.10 to 29.90, and we have at last been getting more summer-like weather, although still changeable.

SWARMING.

On the 14th, a stock of bees having one hatched queen and two queen cells in a tumbler on the top of the hive separated by perforated "excluder" swarmed, and was returned. It swarmed again on the 15th. The swarm was hived, but the appearance of several bees leaving the hive quickly gave evidence that there was no queen. I then removed the tumbler containing the two cells from the stock and placed it over the swarm in their new hive which settled them. On the 17th one of the queens was evidently hatched, as it (the swarm) swarmed again, but intercepting the queen with a few bees, and removing the other queen in the act of creeping out of the cell, put a stop to it. This was about midday, and the temperature was so chilly that the greater bulk of the bees lay benumbed for about twenty minutes, when the weather became warmer, and by two o'clock the temperature had risen to 68°, and thus the bees were enabled to gather a little honey. By four o'clock the temperature was again at 50°. This case proves that neither timely space nor excluders will prevent swarming.

PURITY OF BEES.

I have for a considerable time past drawn the attention of your readers to the impurity of some of the variety of bees sent to this country, as well as what the Americans sell, which do not resemble pure breeds.

I had a visit lately from J. D. Boswell, Esq., 9, Morning-side, Edinburgh, a lover of bees, naturalist and botanist to boot. He has travelled over the continent, and visited the Italian Alps, the home of the Italian Alp bee; and also Lower Italy, where, he says, the insect is not pure, thus corroborating Herman's statement and my own opinion. He also informed me that he gathered a rare Fern in Austria, that he had never seen described in any work nor observed in any collection.

PUNICS.

Although the weather is still unfavourable for testing the superiority of different varieties of bees, it would occupy too much space to defer all I have to say till the end of the season, so will give my experience from time to time. In every case, and with all people who have given them a trial, the Punics are mild tempered, and do not propolise more than some other varieties. With the exception of crossed Syrians they have as much stored honey as others, entering their supers readily, and do not swarm till their hive is filled and crowded. I have sometimes thought they were more tender than Carniolans, but harder than Italians, Cyprians, and Syrians. Doubtless they raise a great number of queens; as many as fifty to 200 may be found in a hive at one time—a feature I do not like. One pure stock hive I examined a month previous to swarming had upwards of 200 royal cells, and I do not know how long this had been going on, as I saw one only thrown out, but since I have observed about six. From the appearance of this hive no less than 1000 queen cells must have been raised and then destroyed, because piping only began after a month's work of this kind had been going on, and I am inclined to think the old queen only issued with the swarm—a good feature certainly, but I will make sure and let you know.—A LANARKSHIRE BEE-KEEPER.

SENDING BEES BY POST.

THE Editors of another journal state that they "are in a position to say that there is no truth whatever" in what I say on June 23rd, but, as usual, they do not give any evidence to support their assertion, and try to claim what is due to me for Mr. Cowan.

If these Editors are able to publish a copy of the complaint sent to the Postmaster General, calling his attention to the fact that I was in the habit of sending bees by post, and asking for the law to be enforced, and give their proofs for what they now say, I will then publish what I told the P.M.G., which led to a sharp look out for packages of bees coming from North Africa as the mails reached this country, and which may be somewhat interesting.

It is stated that "all the concessions hitherto obtained have been through the initiative of the B.B.K.A., who appointed a deputation, of whom Mr. Cowan was one, to wait upon the postal authorities." The last "deputation," from what I can learn, consisted of the Secretary of the B.B.K.A.—the late Rev. H. R. Peel—and Mr. Cowan, who waited on Mr. Blackwood, Sec. of the G.P.O. on Aug. 11th, 1881—eleven years ago. The answer they got was a "regret" that the P.M.G. was "unable to comply with the wishes of the Association." Particulars of this will be found in *B.B.J.* for Oct. 1st, 1881, page 113.

Allow me to inform these very energetic Editors that everything of value connected with sending hives by post has always been obtained through my "initiative." It was entirely through my observations, suggestions, and discoveries, and my agreeing to pay Mr. Benton half price on dead queens and full price on live ones, that mailing queens long distances was eventually made a success. It was I who told Mr. Benton how to send his queens, and it will not make the least difference to me if the law is never altered, as all my queens go by letter post, openly, with my name and address on the packages. What I wanted was to make it so that everyone can do what I am doing. If this fact had been used as a lever to show the anomaly of the law an effective step would have been taken, instead of which it was represented to the Post Office that sending bees by post was against the interests of bee-keepers; at least this was what the Post Office authorities understood, and why they took steps to stop me sending them.

These well-posted Editors say I have got no concession for bee-keepers "other than that which has been enjoyed by them since the Inland and Foreign Parcel Post was established." If this is so I challenge them to point out either in their own journals or the Postal Guide the slightest intimation that live bees can be sent by Parcel Post. The law says "living creatures" shall not be carried by post, either as "parcels" or anything else. The July Postal Guide does not, I see, except live bees, and I shall write to ask why the exception to live bees is not published in the Postal Guide, so as to ensure its going in next time.

If these Editors can show their party have made any movement for eleven years, or obtained any concessions, or made any public, they have now a fine chance to confound me; if they do not do so, readers can form their own conclusions as to "who, from interested motives, endeavour to make black appear white."—JOHN HEWITT, *Cambridge Street, Sheffield.*

OLD IDEAS AND NEW NOTIONS.

I SHOULD like to shake hands and have a chat with "Lanarkshire Bee-keeper." He has mentioned my name several times in your paper. I am sorry if I have caused any soreness with respect to my plan of fixing wax in bar frames. I am fully aware many so-called new ideas have been in the hands of veterans of the craft, but at the same time it is a pity they should remain there, and if the credit falls on the wrong party the public get the benefit. Your paper is read by many interested in bee-keeping, and I hope if our friend has any more bottled up novelties he will out with them, and so save some enthusiast like myself from obtaining honours that have been long since known. I suppose our friend will not find fault with my new ideas in extractors, feeders, &c.—W. P. MEADOWS.



*All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Seedling Strawberry (*G. McD.*).—Your seedling from President appears to be a good variety, the flavour being superior to the type; but to cram the fruits one on the top of the other in a small tin is not the

way to insure their arriving in the best condition for an opinion to be formed of them. You might send a few more carefully packed.

Stunted Cauliflowers (*J. C.*).—There is nothing to satisfactorily indicate the origin of the check. It is wholly local, and the Cauliflowers would have developed under favourable cultural conditions. Poor soil, grubs, or noxious matter, or some check in the preparation of the plants may have arrested their growth. We have no particulars to guide us in arriving at a definite conclusion on the matter.

Mildew on Tomatoes (*X. Y. Z.*).—There is nothing the matter with the individual leaf to cause you any concern, but the pair are infested with mildew. All such leaves should be cut off and burned, and the remainder may be dusted with sulphur. Are you not keeping the house too close and moist? You do not say whether it is heated or not; if it is coat the pipes with sulphur, the fumes of which are obnoxious to the small fly of which you complain, and have a tendency to check the growth of mildew.

Grubs in Rose Twigs (*F. F. G., Howick*).—The trees are infested by the grubs or larvæ of one of the saw-fly group, probably that of *Pœcilosoma candidatum*, a black and white fly of small size. These appear about April, and deposit eggs upon the shoots, into which the young larvæ at once burrow, and remain hidden till mature, which event happens during July, when they descend to the earth, where they winter. Hence it has been advised to remove the surface soil on the ground where they have been noticed to occur, or apply quicklime in dry weather, which destroys them. While they are in the twigs nothing can be done beyond removing all infected.

House for Carnations (*St. Julien*).—The structure is more suitable for growing Carnations in than a light span-roof with brickwork up to a little above the stages, and glazed sides about 18 inches high from the brickwork up to the eaves. If the house is narrow, flat side stages, also a stage across one end will suffice, but large houses have a central stage as well. You appear, however, to desire a small house, and only wish to know the height. The heights of houses are governed by their width. An amateur we know grows Carnations very well in a house 9 feet wide and 8 feet high to the ridge, the ends standing north and south. Ample provision must be made for ventilation, both in the sides and roof of the house. Houses 30 feet long are sometimes heated with gas. We prefer the burners under the boiler outside the house.

Fungus on Tomato Leaves (*G. M.*).—The description you give of the fungus does not accord with *Cladosporium*, but the white spots under the leaves that turn to a dark brown agree better with the Potato fungus (*Phytophthora infestans*). Had you sent a few leaves for our inspection we should have been able to have given more explicit information. You may, however, spray the plants, but not the fruit advanced in swelling, with ammoniacal carbonate of copper solution made by mixing thoroughly 3 ozs. of pulverised ammonia carbonate and half ounce of copper carbonate (precipitated), and keep in an air-tight vessel, and when wanted for use dissolve in 10 gallons of water. The solution must only be used so as to coat the foliage with a thin film, and both surfaces of the leaves must be dressed. A syringe with a spraying nozzle will do this effectually.

Tomatoes Failing (*W. H.*).—We have seen very good crops grown in such positions as you describe. The boxes are quite large enough. We suspect you have erred in allowing too much lateral growth. Most of the best growers allow none at all. They grow the plants sturdily from the first, confine each to one stem from which flower trusses issue, and pinch out all axillary growths when they are 1 inch long. In that way they have "ropes of fruit." Overwatering in the early stages, overcrowding of the growths, and an insufficiency of air are dangers to be avoided in growing Tomatoes. They also like firm soil, and only sufficient water for sustaining free growth. No one can suggest the quantity, as that must be governed by the condition of the plants and state of the weather. You would find Mr. Iggulden's work useful, post free from this office 1s. 2d.

Destroying Woodlice (*J. W., Leeds*).—If you expect to destroy all the woodlice in a night by any action whatever we are bound to say you will be disappointed. The plan we mentioned has answered admirably when properly carried out. We, however, add that toads and pieces of cut Potato are excellent means of destroying woodlice, but where they "swarm" more wholesale means must be employed. Woodlice most frequent leaves, tan, old boards, and other decaying organic matter, secreting themselves in any cracks of the soil, by walls, or anywhere in moist places, and near their food plants. These habits have been taken advantage of for their destruction. The old-fashioned trap of boiled Potato wrapped loosely in a little hay, and placed in a small flower-pot laid on its side in their haunts captures a good many, the baits being examined every morning, and the woodlice shaken out into boiling water. Placing a little hay by the side of the walls upon the beds or borders, sprinkling over it a little scalded oatmeal or bits of boiled Potato, and over these scattering some hay entices the woodlice, and pouring boiling water on the hay through a rose watering can in the morning soon destroys the insects. If the water is not used in greater quantity than to wet the hay no damage is done to Mushrooms. Old tan serves equally well if placed on a narrow board at the side of the bed near the wall, especially when mixed with a little boiled Potato, bread crumbs, scalded oatmeal, or pieces of raw Potato, Carrot, Beet, or Mangold Wurtzel, baiting for a few days to attract the woodlice, and then scald them with boiling water. Mr. Charles Bateson, writing in answer to a question about destroying insects in Mushroom beds, observes:—"If sugar and plaster of Paris are mixed together in any proportion, strewn about an inch thick all round and on the top of the

bed, the insects will speedily disappear; at least I have found this simple mode efficient. They eat it for the sake of the sugar, and I suppose the plaster of Paris must harden in their stomachs, and so kill them."

Fig Leaves Diseased (J. B.).—The leaves are attacked by a minute fungus, a species of *Glæosporium*, which is much milder in action on the leaves than on the fruit, and causes the foliage to have a rusted appearance, completely arresting the growth and crippling the trees. We can only advise the spraying of the infested trees with ammoniacal solution of copper carbonate, which may be made by mixing 3 ozs. of pulverised ammonia carbonate and half an ounce of copper carbonate, keeping them in an air-tight bottle, and dissolving in 5 gallons of water for use. It must only be used as a spray, and not over fruit, which cannot be freed of the copper before it is ripe. Then burn all the leaves as they fall, thoroughly cleanse the house, and dress the trees thoroughly with a solution of sulphate of iron in water. A 10 to 15 per cent. solution is used on the Continent for Vines, but the weaker solution is quite strong enough for Fig trees. It is best to try the effect on a few growths, which will show indications of damage in a few days if injured, when it may be diluted if necessary, as Fig growths vary considerably in the maturity of the wood. The surface soil also should be removed, so as to prevent infection.

Crossed Cacti Fruiting (S. B.).—The fruit now about the size of a hen's egg will mature this season, but it is best to allow it to become shrivelled and dry, as it will be by spring, when the seed may be rubbed out and sown in a pot or pan filled with very sandy soil, surfaced with sharp white sand, and placed in a partially shaded position until germination commences, when the plants may be exposed, and very carefully watered. Usually plenty of plants spring up, and when they become large enough to handle, six or seven may be placed in a 5 or 6-inch pot and allowed to stand one year, after that time they will be ready to remove singly into 3-inch pots. We should say it would be very interesting to an amateur to raise Cacti from seed of crossed varieties, quite apart from the prospect of obtaining something new and good, but it is a very slow method, therefore little practised. These plants are becoming more popular, and certainly are deserving of more attention than has been accorded to them in recent years.

Heating Forcing Houses (A. G.).—It is somewhat wasteful of fuel to use a large boiler for heating a smaller quantity of piping than it is intended for, but by careful stoking the waste may be considerably minimised. With so large an extent of glass it would hardly be desirable, and certainly not safe, to rely on one boiler. You ought to have a duplicate, so that there would not be any serious loss in case of an accident. Therefore, you may find it more economical to have a boiler large enough to heat the first lot of houses, and defer having the duplicate until the other houses are erected. The Cornish boiler, that is the Trentham Cornish boiler, is much in use, and answers very well. The Thames Bank and other forms of horizontal tubular boilers are not more wasteful of fuel than the upright tubular boilers, for the principle is to place the water in the furnace, just as the blacksmith thrusts the iron into the fire, and abstract as much heat out of the furnace or fuel as possible. The saddle boilers are excellent, especially those with terminal ends and hollow grate bars. All, however, are now so much improved that it is difficult to decide as to which is the best form of boiler. You cannot err in having the most approved of any of those mentioned.

Planting and Repotting Roses (A. S.).—The *Maréchal Niels* to which you allude are, we presume, established in pots. When these are fairly filled with roots planting may be done without removing the soil, except rubbing a little off the top and remove drainage to slightly liberate the roots. Take care that the soil is neither dry on the one hand nor soddened with wet on the other when the planting is done, and the new soil should be pressed firmly round the roots. Turfy loam, inclining to be heavy, with a sixth part of sweet decayed manure intermixed, adding a shovelful of wood ashes to a barrowful, will form a suitable compost. Mulch the surface of the soil after planting with partially decayed manure. Fresh soil may be given to Roses in pots now, removing a portion of the old and inert, and to liberate some of the roots, and bring them in contact with the new compost. Stand the pots on ashes in a shaded place outdoors for a time, but not under trees, and syringe as often as may be needed to prevent the leaves flagging. This is better than saturating the soil. Overwatering after repotting is an evil not always avoided, and so is placing the pots in needlessly large pots. Coarse sand may be added to the compost for potting, also about a seventh part of leaf soil for Tea Roses.

Grapes Eaten by Grubs (H. D.).—The Grapes are gnawed and partly eaten by the larvæ of the Apricot Moth (*Portrix angustiorana*). The pest lives on other fruit trees, indeed on most, on Privet, Hawthorn, and other shrubs, and of late years has been found on Grapes, as in your case. The larvæ are most partial to the Apricot and Pear and appear during May and June. They are half to three-quarter inch long, yellowish green with brownish head, and a few hairs scattered over the body. It is a very active creature, wriggling about in various distortions when disturbed, crawling backwards or forwards with equal facility, and lets itself down by a fine thread from its mouth. On Grapes, the caterpillars gnaw the skin and eat part of the pulp, and fasten them together by a web. The attacked berries decay and cause the decay of others in contact. The grub becomes nearly an inch long when full fed on Grapes. It attains this condition by the time the Grapes are ripe, and is not generally noticed until that time because its infestations on Grapes are only occasional, but it seems to be largely on the increase in this respect, and is very destructive. They are easily detected and

when disturbed they quit their quarters, but less quickly on Vines than on fruit trees, and let themselves down by a small thread, and are readily captured. Close observation and hand-picking are, therefore, the best remedies. The moth is from half-inch to three-quarter inch in expanse of forewings, which are ochreous in the males and reddish-brown in the females, with a darker patch at the base, a chestnut brown patch slanting from the middle of the wing to the hinder angle, and darker spots irregularly scattered over the outer half of the wing with a triangular spot on the front border. They appear in early summer and are very fond of light, indeed they are destroyed in fires on the Continent and in vessels of water.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (J. B.).—*Zephyranthes carinata*. (Somerset).—It looks very much like the Goldilocks, *Chrysocoma linoxyris*, but the specimen is not a good one, and we cannot speak with certainty.

COVENT GARDEN MARKET.—JULY 27TH.

HEAVY supplies now to hand of sieve fruit, realising fair prices.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, Tasmanian, case	2	6	5	0	Lemons, case	10	0	15	0
Cherries, per half sieve	2	6	7	0	Oranges, per 100	4	0	9	0
Currants, Red, half sieve	3	0	3	6	Peaches, per dozen	2	0	8	0
" Black, half sieve	4	9	5	3	St. Michael Pines, each	3	0	6	0
Grapes, per lb.	1	0	2	6	Strawberries, per lb.	0	3	1	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beans, Kidney, per lb.	0	3	0	4	Mustard and Cress, punnet	0	2	0	0
Bect, Red, dozen	1	0	0	0	Onions, bunch	0	3	0	5
Carrots, bunch	0	4	0	0	Parsley, dozen bunches	2	0	3	0
Cauliflowers, dozen	2	0	3	0	Parsnips, dozen	1	0	0	0
Celery, bundle	1	0	1	3	Potatoes, per cwt.	2	0	5	0
Coleworts, dozen bunches	2	0	4	0	Salsafy, bundle	1	0	1	6
Cucumbers, dozen	1	6	3	6	Scorzonera, bundle	1	6	0	0
Erdie, dozen	1	3	1	6	Seakale, per basket	0	0	0	0
Herbs, bunch	0	3	0	0	Shallots, per lb.	0	3	0	0
Leeks, bunch	0	2	0	0	Spinach, bushel	3	0	3	6
Lettuce, dozen	0	9	1	0	Tomatoes, per lb.	0	4	0	6
Mushrooms, punnet	0	9	1	0	Turnips, bunch	0	3	0	4

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms	2	0	4	0	Maidenhair Fern, doz. bchs.	4	0	6	0
Asters, French, bunch	1	0	1	6	Myosotis or Forget-me-not, dozen bunches	2	0	3	0
Bouvardias, bunch	0	6	1	0	Mignouette, 12 bunches	2	0	4	0
Carnations, 12 blooms	0	6	2	0	Orchids, per dozen blooms	2	0	8	0
Carnations, Malmaison, 12 blooms	1	6	6	0	Pansies, dozen bunches	1	0	2	0
Carnations, dozen bunches	4	0	6	0	Pelargoniums, 12 bunches	4	0	6	0
Coriander, dozen bunches	1	6	3	0	" scarlet, 12 bunches	3	0	4	0
Eschscholtzia, doz. bunches	2	0	3	0	Pinks, dozen bunches	2	0	4	0
Eucharis, dozen	2	0	4	0	Poppies (var.), doz. bunch	1	6	6	0
Fuchsias, per bunch	0	6	1	0	Primula (double) 12 sprays	0	6	0	9
Geraniums, per dozen	2	0	4	0	Roses (indoor), dozen	0	9	2	0
Gypsophylas, French, large bunch	1	0	2	0	" (outdoor), doz. bunch	2	0	6	0
Gypsophylas, English, small bunch	0	4	6	0	" Red, per doz. blooms	1	0	2	0
Lilium candidum, bunch	1	6	2	0	" Tea, white, dozen	1	0	3	0
Lilium longiflorum 12 blooms	2	0	4	0	" Yellow, dozen	2	0	4	0
Lilium (var.) doz. blooms	0	6	2	0	Stocks, dozen bunches	3	0	6	0
Marguerites, 12 bunches	2	0	4	0	Sweet Sultan, doz. bunches	2	0	3	0

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (golden) dozen	6	0	12	0	Lobelia, per dozen	3	0	6	0
Begonia, per dozen	6	0	12	0	Lycopodiums, per dozen	3	0	4	0
Calceolarias, per dozen	3	0	6	0	Marguerite Daisy, dozen	6	0	12	0
Cupressus, large plants, each	2	0	5	0	Mignouette, per dozen	4	0	6	0
Dracena terminalis, dozen	18	0	42	0	Myrtles, dozen	6	0	9	0
" viridis, dozen	9	0	24	0	Palms, in var. each	1	0	15	0
Euonymus, var., dozen	6	0	18	0	" (specimens)	21	0	63	0
Evergreen, in var., dozen	6	0	24	0	Pelargoniums, scarlet, doz.	2	6	4	0
Fern, in variety, dozen	4	0	18	0	" per dozen	6	0	12	0
" (small) per hundred	8	0	12	0	Rhodanthus, per dozen	4	0	6	0
Ficus elastica, each	1	6	5	0	Trailing plants (various), per dozen	3	0	9	0
Foliage plants, var., each	2	0	10	0	Tropeolum or Nasturtium per dozen	4	0	6	0
Fuchsia, per dozen	3	0	8	0					
Geraniums, Ivy	4	0	6	0					
Hydrangea, per dozen	9	0	15	0					



HOME FARM

DAIRY COWS.

CAREFUL consideration of ways and means for the possible improvement of agriculture gives rise to the question, Have special efforts for the improvement of certain breeds of cows

been wisely directed in view of future contingencies? Regarded broadly, so as to take in the bearing of foreign influences, the answer is decidedly unfavourable. The Shorthorn craze had only the production of beef for its end and aim; the Herefords only yield enough milk to rear their calves; the same may be said of the Sussex; Red Polls do better, coming much nearer the farmer's ideal cow in a profitable milk yield and the property of fattening easily, and it is only in "butter breeds" like Jerseys that breeding for milk has had the attention it deserves. The error appears to be the sacrifice of milk for beef. In milk we have practically a monopoly, in beef we have a brisk foreign competition, growing in magnitude yearly. The production of milk does not keep pace with growth of population, nor are there visible signs of efforts to effect improvement where it is so possible.

Authorities have from time to time published averages for the United Kingdom. Taking four of these, the average works out at an annual yield per cow of about 363 gallons. Another more recent statement places it at 400 gallons. If we take the lacteal period at 40 weeks—a low estimate—we have at the 400 gallons average only 10 gallons per week; or add to 400 gallons 150 more for consumption by the calf, or a total average yield of 550 gallons, and we have then in round numbers a weekly yield of only 14 gallons, or 8 quarts per diem. Now, we have cows which yield fully twice that quantity, so that the range of possible yield is very wide indeed. The possibility of improvement is proportionately great—the probability doubtful in about the same ratio. We have in these figures avoided niceties of decimal calculation, it being sufficient for our purpose thus to state the case broadly. Averages of special dairies have been given in former articles on this subject, but as bearing usefully upon it mention may now be made of Professor Sheldon's herd of Shorthorns' yield of 750 gallons; of the Duke of Westminster's herds on the Eaton Hall estate, with an average closely approaching this; of equally high average of the Munster Dairy School Shorthorns and cross-bred Ayrshires; of a still more remarkable average of 804 gallons of the Monewden Red Polls in Suffolk; and of the yield of an average of 600 gallons by a herd of Jerseys at Erleigh Court in Berkshire.

Surely such facts ought to act as an incentive to exertion, for if dairy farmers are fairly prosperous under the low general average, the higher possible one points to positive affluence. The well bred, carefully selected, deep milker requires no more food—certainly no greater care—than the mongrel inferior animal ought to have; the only difficulty is to obtain it. How this is to be done is sufficiently obvious—just steady persistence in breeding and selection—and remember the male parent must come from a family of deep milkers equally with the female. Cross-breed as much as you please, but do it judiciously and of set purpose, then success is a certainty sooner or later. Aim high, for general improvement in quality and quantity are both certain to reward persistent effort. It must be persistent, taking the inevitable failures very much as a matter of course; keeping in view a certain standard of, say, 700 or 800 gallons as a minimum average nett annual milk yield per cow. There need be no interference with business routine in doing this. The dairy work may go steadily on, herd numbers being well sustained, and as the head of deep milkers increases profits will grow too, so that means will be available for obtaining more heifers from other herds.

Quality is unlikely to receive much attention from those who produce milk solely for immediate sale. Plenty of milk is all they care for when it is sold by measure only, but when consigned to a butter factory, and sold under systematic testing for quality, then richness in cream tells to a much greater extent than is generally supposed. There is much difference of opinion as to richness of milk, some well-known dairy farmers giving 30 pints as the correct quantity required to yield a pound of butter, others lesser quantities downwards to 20 pints, yet we have it on high authority that 16 pints of Jersey milk of average quality, set and churned in an ordinary manner, will produce 1 lb. of butter. It must not be forgotten that careful breeding conjointly with judicious feeding and the use of a good separator, all tell upon the final result.

It is certain that much cream is wasted through bad management, such as churning unripe cream, or that which has been mixed carelessly—newly skimmed with that which has been skimmed for a day or two, or cream that has been badly separated. No doubt success in this as in other things depends very much upon a capacity for taking trouble, or in other words close attention to detail, as well as to breeding. The man who does one of these is precisely he who is most likely to do the other. That he will be richly rewarded is a certainty, because his possibilities are so great in increased production as well as in a ready market.

WORK ON THE HOME FARM.

Never have we known a more favourable season for all root and green crops, seed germination and plant growth being equally quick and vigorous. The transplantation of Cabbage and Thousand-headed Kale has also gone well, with plenty of rain to establish and set the plants growing freely; with sturdy plants and a rich soil success is then assured. Keep the soil well stirred between the rows, it keeps down weeds and keeps out drought. Do all you can to have an abundant supply of Kale for use next winter and spring, its value then is incalculable; it is such a boon when pastures become bare; and

"When winter lingers in the lap of spring,"

as it so often does, a few acres of Kale enable one to keep sheep off the grass, to keep cows in the yard, to freshen up the milk yield, and to wait for the grass till it is really sufficiently forward for useful grazing. Let it not be thought that we lay undue stress upon this crop or its influence upon the management of stock in winter and spring. Kale, though a most useful crop, is after all but a means to an end, and is just one of several things to bear in mind now. Where roots were sown early they appear to answer best this season; the later sowings—especially of Turnips—failed so much that we have seen several fields where seed has been drilled a second time in places. Though there has been much wet weather weeds have been kept under much better than was possible last summer. Charlock has made its appearance in several cornfields in small numbers, just in the usual way; every plant has been pulled up as soon as the flowers became visible. This is the only way to keep down this pest. Once leave it to ripen seed and it is almost impossible to get rid of it. That is how it has practically taken possession of the land on so many farms; a few plants the first year, thousands the second year, any conceivable number afterwards. The seed ripens, falls upon the surface, is ploughed in; any near the surface germinates, but so much is buried that every time subsequently the soil is stirred by plough, harrow, or cultivator, enough seed is brought to the surface for a full crop, so that the expense incurred in persistent efforts to eradicate it is positively ruinous.

As men could be spared weeds on the headlands and ditch-sides of cornfields have been cut down before seeding was possible. We have reduced the nuisance of such weeds to a minimum by a thorough clearance of ridges formed of an accumulation of ditch scourings for many years. These were carted to clay fires and burnt, since then the soil has been cultivated so near to the edges of the ditches as to leave space only for a narrow path; headlands are well worked and sown, far better is thus to grown corn than weeds, and to make neatness and profit to go hand in hand.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

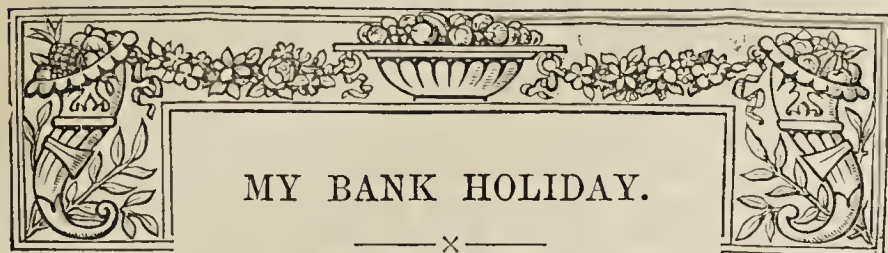
Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.
1892. July.	Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.
Sunday .. 17	29.770	53.8	53.6	N.E.	58.8	55.5	53.7	98.2	53.6	0.184
Monday .. 18	30.006	57.3	49.6	N.E.	57.3	64.1	49.0	119.4	44.0	0.103
Tuesday .. 19	29.945	58.6	51.9	W.	56.9	61.0	46.3	92.6	41.8	0.683
Wednesday 20	29.854	57.3	53.2	N.	56.2	65.1	51.2	108.4	49.2	—
Thursday .. 21	30.254	55.6	49.9	N.	56.2	68.3	47.1	117.1	42.2	—
Friday .. 22	30.249	62.3	56.1	S.E.	57.6	70.6	47.5	100.4	41.6	—
Saturday .. 23	30.277	65.6	58.4	W.	58.0	76.9	50.2	120.4	44.4	—
	30.051	58.6	53.2		57.3	66.0	49.3	108.1	45.3	0.970

REMARKS.

- 17th.—Almost incessant rain till 3 P.M.; gloomy and damp after; very cold day.
18th.—Sunny early, generally cloudy after 11; overcast afternoon; rain from 5 P.M. to 7.30 P.M.
19th.—Sunny early, fair morning, S.W. gale, with continuous heavy rain from 0.30 P.M. to 4.30 P.M., and occasional torrential rains after.
20th.—High wind, and occasional gleams of sun and spots of rain in morning; frequent sunshine in afternoon.
21st.—Cloudy early, bright sunshine from 11 A.M., cloudy again in evening.
22nd.—Sunny, but rather hazy.
23rd.—Bright and warm, hazy at times.

In spite of the very low maximum of Sunday, 17th, one of the most uniformly cold days in July on record, the mean for the week is not notably below the average.—G. J. SYMONS.



VARIOUS are the ways in which people spend what is known as their holiday. This must of necessity be so, having regard to the differing tastes of the multitude which compose the workaday world. Thousands of persons in London escape to the country when the day comes that permits their doing so; while, on the other hand, many in the country flock to the metropolis to see the various sights that are provided for them, and bringing in shillings to the providers. Some persons, perhaps the majority, are bent wholly on deriving pleasure during their occasional respite from toil, while others seek to combine with it instruction. Without in the least reflecting on the purely pleasure-seekers so long as what they desire is wholesome and healthy, I have to class myself on the present occasion in the other category—those whose object during a day or two's relaxation is to blend instruction with enjoyment. Being an item in the great and, it is hoped, ever-growing community that delight in gardens and gardening, I found myself in London on the Saturday prior to Bank Holiday wondering where to go for satisfying my aspirations. "Oh," said a good friend who was appealed to for advice, "go to Chiswick; as a Fellow of the Royal Horticultural Society you have the right of entrance, and there is always something worth seeing there that a mind on the alert may grasp and store, possibly to advantage." "But when shall I go, and how shall I get there?" was the responsive inquiry. Promptly came the reply, "Go now, from any of the stations on the District Underground Railway, say the Temple or Charing Cross, to Acton Green, and you will be within five minutes' walk of the gardens." The advice was taken, and I found myself at Chiswick.

Some years had elapsed since I had paid a visit to the gardens. I had the famous pyramid Pear trees in my mind, and the noble vinery. These I found there still, much in the same condition, but though the trees were nearly pearless, there was plenty of fruit on the Vines trained up the lofty curvilinear roof. How well the old Vines wear and bear. This is due, no doubt, to the practice that appears to be followed of training up young canes periodically and removing the old as the laterals become weak, not overcrowding the foliage, and affording nourishment to the roots by mulching the border with manure. Under such practice, with roof room for extension, and the soil of good staple, there is no knowing how long Vines, judiciously managed, will continue satisfactorily productive. In another long and narrow structure in the gardens, Vines much less young are not correspondingly fruitful, due, probably, in a very large measure, to the compulsory restriction to which they are subjected, and it is a pity the cramped tunnel-like case was not widened years ago. It struck me as an absurdity, though it may savour of presumption to suggest that the Council of the Society should permit anything to exist to which that epithet could be reasonably applied. If the stupid "case" had been ennobled into a roomy "house," the increased quantity of Grapes would have defrayed the cost of the addition in a very few years. Perhaps, however, the authorities know this, but as Mr. Barron was not present I could not appeal to him on the subject. I can only express the belief that the Vines are being ruined by restriction—at least, that is the lesson they taught me. Is it the lesson they are intended to teach others who may visit the gardens for instruction?

A large and lofty span-roof house appears as if it would some day be filled with Muscat Grapes, and good ones, judging by the growth of the Vines. But what a trial it would be to some of our young gardeners if they had to establish Muscat Vines in a forest of Tomatoes, yet that is what is being done at Chiswick. For vigour of growth and size of fruit these Tomatoes have surely seldom been excelled, still the Vines have forced their way out of and above them, and are making splendid canes, a few at the ends of the house, which have been allowed to bear, carrying splendid crops of fruit. This dual culture of Tomatoes in fullest vigour and Vines of greatest promise would be regarded as somewhat of a triumph by many; but Mr. Barron, I am told, is never elated, and let us hope he is seldom depressed. Whether he likes it or not, a tribute must be paid to the great cultural aptitude that is displayed in this not common but successful combination.

"Figs are a feature of Chiswick." So said my London adviser, and I found he was right. In a fine, roomy, light house, built, I was told, by Messrs. J. Weeks & Co., and evidently well adapted for its purpose, is such a collection of Figs in pots that surpassed all my expectations. For variety, health, and productiveness I suspect it would be difficult to find their equal anywhere. The bushes, in various sizes, are studded with fruit. There are thousands upon thousands ripe, swelling, and forming, the trees being evidently master of their work, and the manager master of the trees. It is a veritable museum of Figs, which even a Royal Society may be proud to own, and if I had seen nothing else at Chiswick I should have been more than satisfied with my visit to the gardens. But there was a good deal more to admire—a breadth of dwarf Apples laden with fruit, another plantation of young trees on different stocks, collections of various flowers embracing the latest varieties too numerous to even enumerate, and a line of Cannell's Seedling Lobelia, the most perfect in its compactness and rich blue colour that I have been privileged to see in not a short nor shortly travelled gardening career. Such is the beginning of my holiday, which was distinctly enjoyable and instructive.

The Chiswick view ended, and my gratification described in the evening to my friendly guide, where to go next became the subject for discussion. It was eventually decided that as I had seen cramped Vines I should see what Vines can do which have their freedom, and a Sunday evening's stroll was arranged in the direction of Roehampton. This quiet and picturesque village seems to nestle in a hollow on the verge of Wimbledon Common. It is just far enough from a railway station for preserving its rural character, and is both peaceful and prosperous. Some seven or eight millionaires are said to reside within its borders, and there is always work to be had for all respectable men, those who work in gardens receiving from 20s. to 25s. a week. Near the centre of this village is Manresa House, formerly the seat of the Earls of Bessborough, but now a Roman Catholic College. In the gardens is the celebrated Vine that I had more than once read about in the *Journal of Horticulture*, and often wished to see. At last my hopes were to be realised. We were fortunate in finding Mr. M. Davis, the gardener, at home. He is a bright, intelligent, genial Irishman. It is a real pleasure to meet such a man, truly one of Nature's gentlemen, and unquestionably a first rate gardener. Though his innate modesty will cause him to almost shrink from what I am about to say, it has to be said; and it is this. Mr. Davis is the raiser and grower of the finest Vine in the United Kingdom. No other man living can look upon such a Vine of his own raising and training. Visitors call to see it from far and near, Mr. Peabody declaring that the inspection alone was worth his voyage from America. Planted almost in the centre of a narrow lean-to house, the roof having a sharp angle, the seven arms of the Vine stretch right and left to a length of nearly 230 feet, or if placed end to end more than a quarter of a mile. They are as straight as Vine rods can be, and from the upper side of each horizontal the laterals are trained at suitable intervals—overcrowding being avoided—for

bearing the crop. Before thinning commenced in early summer about 2000 bunches were removed, upwards of 800 being left to ripen. The Grapes are now colouring, and in a fortnight's time will be ripe. They hang with great regularity, and are better at the point farthest from the stem than near it. This Vine was raised from a cutting by Mr. Davis twenty-nine years ago and is in the best of health, having stout clean foliage and excellent fruit. The crop sold last year for £100. In this Vine we have something altogether out of the common, something that shows what Vines can do when they have freedom guided by the cultivator's art.

When admiring this extraordinary example of unremitting care during a generation on the part of the raiser of the Vine, I thought surely here is a case worthy of public recognition, and could not repress a feeling of regret that the Royal Horticultural Society has no medals to grant to men who have achieved really great results outside the exhibition hall. Over and over again must medals have been granted for plants, flowers and fruit, which as representing cultural merit—the work of a season or two—sink into insignificance as compared with this truly wonderful Vine which an able man has spent the best part of his life in producing. I know not the terms on which the Veitch Memorial medals are granted, but if for triumphs in culture by British cultivators may not this great work of Mr. Davis—for a great work it is, and indeed in its way unparalleled—be considered?

There are other Vines at Manresa House on which I should like to dwell but cannot. They may be called substantial novelties, for four of them must have an aggregate length of rod of much more than half a mile, all bearing useful fruit from end to end. Then there are the Peaches. These even without the Vines would have satisfied me, one tree covering a space of 45 by 15 feet of trellis, closely studded with fruit, and dozens of other trees similarly cropped. In one season the fruit from two of the trees was sold to the late Mr. Morgan for £42. That is something to remember; so are the Apple trees thirteen years planted, and grown on the extension system; but the Vine eclipses all. Let those who suspect any exaggeration in this description go and see for themselves. Manresa House is within two miles of either Putney or Barnes station on the London and South-Western Railway.

I have yet Monday to fill in, the real Bank Holiday, though it will be seen I commenced on Saturday. I decided to visit Carshalton Park and see what Surrey cottagers could do, and hear what their mentors had to say at the meeting called a conference. The Show surprised me. The vegetables were remarkable, the fruit good; gardeners and nurserymen adding attractive features. A great multitude attended, and all seemed happy. At the Conference Mr. Cosmo Bonsor, M.P., presided. The Surrey County Council was represented by Mr. E. J. Halsey, Chairman, and Mr. H. Macan, Secretary of the Technical Education Committee. Mr. E. Luckhurst, in a lucid address, said Surrey was leading the way in teaching sound gardening among the masses, and he described how gardens could be made attractive as well as productive. Mr. A. Dean waxed eloquent on the beauty of vegetables as well as flowers, and pointed out examples of excellence in specimens before him. Mr. George Gordon took as his text the gardens he had judged in the district, and commented usefully upon them; while another Judge, Mr. J. Wright, laid down the law on hardy fruit culture. The sides of the tent were taken down, and the people flocked round to hear the speakers, some let us hope taking useful hints away.

Mr. Smee, C.C., appeared to be everywhere and looking after everybody, his gardener (Mr. Cummins) a fixture in his tent, writing out cards and taking in money; while young ladies in a well furnished marquee were selling all the flowers they could for the benefit of the Gardeners' Orphan Fund. Thus did I spend pleasantly and profitably my last Bank Holiday, and I trust this narrative may not be wholly without interest to those readers who were similarly or differently engaged.—A COUNTRYMAN.

NOTES ON THE MANAGEMENT OF VINE LATERALS.

VINES in late houses, when they are in a satisfactory condition, will now be making growth freely, and the way in which the laterals are manipulated will have a marked effect on the finish of this year's crop, and also on the character of the wood produced, upon which we must depend for next year's supply. It too often happens that the removal of lateral growth in the summer months is conducted on principles antagonistic to the well being of the Vines, and therefore conducive to their early enfeeblement. Vine borders may be well made, carefully attended to in the matter of watering and feeding, other details of culture be correctly carried out, and yet the good results which should ensue be to a great extent nullified by faulty management of lateral growth.

If, however, every cultivator considers the two extremes to be avoided the right course to pursue should not be difficult to determine. On the one hand we should avoid allowing Vines to make a large amount of lateral growth, which unduly shades the main shoots, and consequently prevents their becoming well ripened; whilst on the other hand the more healthy foliage which is well exposed to the light each Vine carries, the more numerous and active will its roots be. If through want of attention at the right time Vine shoots are allowed to grow unchecked till they form quite a thicket the worst possible course to pursue is to suddenly remove all superfluous growth at one time, and yet in very many instances this is just what is done. When through pressure of other work this state of things exists the reduction of shoots should be gradually done, or shanking of the fruit and ultimate weakness of the Vines will assuredly follow. Commence by shortening to about half their length a few of the strongest shoots, removing the points from others and allowing the weakest laterals to go untouched for a time. This will admit quite as much light as is desirable under the circumstances. A fortnight after about half the weak shoots may be cut back to within a couple of eyes of the main laterals, and the others be allowed to grow for a time till young shoots make their appearance from those laterals which have already been shortened. In some cases, especially where the Vines are a good distance from the glass, it is far better to leave a lateral here and there till the end of the growing season, as less harm will be done to the Vines by the little shade thus given than would be the case if all young shoots were cleared off in a wholesale manner after having once been allowed to develop too much growth. When shoots are left in that way merely take out the points, and with a piece of tying material draw it down towards the trellis so as to have the bent portion of the shoot forming a little arch above the main laterals. In this way a greater amount of well exposed leafage is secured and the general health of the Vines is benefited by it.

I fully believe that many Vines are seriously crippled by too close stopping during the time the fruit is swelling and stoning. In the early stages of a Vine's growth the stopping of shoots generally receives careful attention, as it is absolutely necessary to go over them regularly to keep the shoots from touching the glass; but when once the main laterals are tied in their final positions the attention given to lateral growth is often of a spasmodic character. I am thoroughly convinced that to keep Vines permanently healthy, strong, and fruitful, a little growth should be continually going on till the fruit is ripe. At the same time there must be no allowing a thicket of lateral growth to shut out the light and air from those shoots to which we look for next season's crop. Perhaps many are misguided in their treatment of lateral growth because black Grapes, especially Hamburgs, will colour splendidly under a perfect thicket of growth; but under this treatment the shoots get weaker, and the bunches smaller each year. The aim should be, and the difficulty is, to have sufficient shade to enable them to colour perfectly while the growth is being gradually ripened, and it is for this reason that a thin shade is of great benefit to Black Hamburgs which are perfecting the colouring process during bright weather.—H. DUNKIN.

VIOLAS AT CHISWICK.

VISITORS to the Royal Horticultural Society's Gardens at Chiswick will find an interesting collection of Violas raised by Dr. Stuart of Chirnside, N.B. They are grown in beds on the lawn, and are very attractive. They are quite distinct from other Violas in commerce, and in my opinion very far ahead of anything yet introduced in Violas. Comparison with other varieties will convince anyone that the type is distinct, and is the result of many years' careful and thoughtful work, and the Doctor is to be congratulated on the charming results of his interesting labours.

As a raiser of *Violas* I can appreciate and recognise the merit due to Dr. Stuart. He has started with the *Viola* in its simplest form, and by a careful mode of cross fertilisation has given us delightful flowers. Truly Nature is charming, but art rightly applied charms Nature. One cannot, on looking at the Doctor's *Violas*, do otherwise than echo the sentiments of the poet on the Pansy:—

"Oh! pensive Pansy, with your eye of gold,
And damask face as bright as English Rose."

I am acquainted with numerous details regarding the introduction of these *Violas*, and the results of the crosses used I can trace in the flower by habit and slight peculiarities of a number of the varieties. The groundwork of the entire collection appears to me to be Dr. Stuart's *Violetta*, a little gem of a flower which has been frequently noticed in this Journal. The history of *Violetta* is as follows:—The Doctor, previous to 1874, crossed *Viola cornuta* with a bedding Pansy called Blue King. The most promising seedlings thus obtained were again crossed with a pinkish coloured Pansy, which the Doctor considered a suitable cross. Although the cross was effected with some difficulty owing to the hybridity already gained, the seedlings thus obtained seeded freely, and were sent to Chiswick for trial where they obtained six first-class certificates.

The Doctor still was in the habit of sowing the seed broadcast and treating the plants as biennials, and thus *Violetta* was obtained in 1887. It had peculiarities all its own, which can be traced in the collection now grown at Chiswick. The principal peculiarities are dwarf habit of growth, leaves rounder in form, and darker in colour than other varieties, and the flowers borne on long footstalks. All the flowers have shell-shaped lower petals. The spur of the calyx is exceptionally long and of a different colour from the flowers, which have an almondy perfume. I am almost convinced that at some stage of the cross previous to the existence of *Violetta Viola odorata* must either accidentally or intentionally entered into the combination.

Most of the varieties at Chiswick are in size of flower very similar to *Violetta*, but varying somewhat in colour. They are all charming, and as bedders cannot be surpassed. The principal colours are white and yellow selfs, but for competition and general uses I want something large in flower and chaste in colour, and this I find in the newer varieties; also, they are all rayless, and are no doubt the result of crossing *Violetta* with such varieties as Countess of Hopetown, *Virginalis*, and other rayless or nearly rayless selfs. The best at Chiswick are *Sylvia*, creamy coloured self of fine quality, large in size, and the finest bedder in cultivation; *Sylvia's Rival*, a purer colour than *Sylvia*; *Flower of Spring*, a handsome form of *Sylvia*; *Blue Gown*, light blue self, very dwarf, and floriferous, light centre; *Georgo Muirhead*, a charming flower, large flowering, colour pale yellow; *Mrs. Primrose*, light yellow upper petals, deeper shaded lower petals; *Sweet Lavender*, pale blue with white eye, very fine; *Blush Queen*, as the title indicates it is of a blush colour, and is without doubt the most charming *Viola* in existence; *Picotee*, medium-sized flower with thin Picotee edges, very sweet.

There are a number of others all large in flower and good in every way, and their perfume is charmingly their own. They are in perfume truly summer *Violas*. With the exception of *Violetta* Dr. Stuart's new *Violas* are not yet in commerce, but no doubt 1893 will see them catalogued and sent out by someone, and the sooner we have these charming varieties the better for us all, as they will all come to stay regardless of the fact that their progenitors were vagabonds and wanderers by field and fell.—
GEO. M'LEOD, F.R.H.S., Chingford.

PINKS.

THIS fine old florists' flower and garden favourite is again coming to the front, and the recent exhibition of Pinks at the great Wolverhampton Show gave an opportunity of seeing some of the leading varieties in cultivation. But to see the Pink in its full glory one has to visit the garden of a leading cultivator, and so far as the Birmingham district is concerned Mr. A. R. Brown has at his garden in the Crompton Road, Handsworth, a very complete collection of the finest varieties; certainly the finest collection in the Midlands, and he grows them exceedingly well. At the Wolverhampton Show he was to the front all along the line. His father, the late Mr. Brown, was a well-known florist and he raised some very fine Pinks. Amongst them that promising variety Amy, the subject of our illustration, was raised some years since, though no pains were taken to increase the stock. It is now to be sent out in the autumn, and Pink growers will hail with delight the acquisition of so grand a flower. It is the finest Pink of the present day, and will be eagerly sought after at five shillings a pair.

I again this season saw the Handsworth Pinks in bloom and took the following notes:—Amy (Brown's, fig 14), is very fine in breadth of petal, form, and marking, reddish purple lacing, opening red and changing to purple. It is a noble flower of excellent properties and a great acquisition. Lustre (Fellowes) is a large flower that requires care in dressing, with small centre petals. Bertram is not a refined flower although most useful in the back row of a stand, heavy red lacing, but not so good as Minerva (Fellowes). Minerva has a dark red lacing, a very fine flower, and one of the best grown. Empress of India is a superb flower with only one fault—it is thin compared with many others. It has a very fine petal, is rich in colour, and with another row of petals it would be a grand flower. As it is it is indispensable even in the smallest collections. Attractive (Hooper's) is being



FIG. 14.—PINK, AMY.

discarded at Handsworth. Blondin (Turner's) is still a useful old sort of a bright colour, but it is now superseded by Ada Louise. Undine (Paul's) is a pretty flower, but too small as proved here. Hooper's Mrs. Barlow is a pretty variety, very pale in colour, with well-formed broad petals and a full flower; it requires shading. Hebe has a heavy dark red lacing which is not regular, but is useful as a back row flower. Ada Louise (Paul) reddish purple lacing, is a good useful back row flower. Paul's Chastity, light, very purple lacing, is a small but refined flower, with a beautiful petal and first class in quality. Fellowes' Rosy Morn, bright rosy purple, medium lacing, sometimes described as red, is a good full flower. John Love is an inferior Modesty. Of Modesty itself I must again say "in every way it is a grand flower," with light rosy purple lacing, a fine petal, and requires scarcely any dressing.

Paxford's No Plus Ultra, raised at Oxford, and I think sent out by Mr. Lakin, is a bright rosy purple with a superb petal, and very

promising. Boiard has a small petal, long and narrow; still the flower is a very telling one in a stand, and it is a most useful red laced variety. Bertha (Paul's) certainly beats Boiard, and that is saying a good deal; a flower of excellent qualities, and broader in the lacing than as seen here last year; pure white ground, and a very fine refined bloom. Princess Louise (Fellowes) is a modest style of flower, not so full of petals, but brighter in colour; almost a fine Pink. Mrs. F. Hooper is this year somewhat irregular in lacing at Handsworth, but is a good variety to grow; bright rosy purple lacing, good petal, and well formed. Zoe (Fellowes) is brighter in colour than last year, heavy red lacing with fine grand petals, and is proving to be a fine flower. Ethel is another of the late Mr. Brown's seedlings, light red, very regular lacing, fine petal, and a beautiful flower. Mrs. Dark, another of the Handsworth seedlings, is a fine coloured flower, very constant; a capital border variety, as the pods do not burst, and it is a good grower. Ophelia (Fellowes), light purple, broad lacing, and a well-built flower with good petal, but the lacing is irregular. Turner's Godfrey is still one of the best of the old varieties. Fellowes' Bessie is wanting in form, and at Handsworth is small, and not regarded as an acquisition, but is very bright in colour. Maclean's Ernest has come very fine this year, exceedingly bright, broad red lacing, with better petals than Ada Louise, but of that style of flower. Fellowes' Olympia is a very unsatisfactory flower here, yet in good growth. Here and there a good petal is to be seen, but it is rough in outline and margin. Campbell's R. L. Hector is a dark shaded red lacing, good petal and form, and will make a fine flower. Fellowes' Jeannette is another very broad laced flower, bright reddish purple; large, and with broad petal, and a fine variety in every way.

Fellowes' Lorina is a late bloomer, large and full, with a broad petal and very dark red lacing. Not quite smooth on the edge, but a grand flower, and will be welcomed. Hooper's Emerald is similar to Ada Louise, but not so fine nor so good as Ernest. Richard Dean (Hooper) must be discarded, as it cannot possibly be regarded as an acquisition, the petals, even to the guard petals, being so small. Hooper's Ranger Johnson will also be discarded, as it is very rough and very unsatisfactory. The Rector has not done well here this year, and I am unable to say anything further than it was very fine at Wolverhampton last year, and is undoubtedly one of the best in cultivation. Hooper's Harry Hooper, dark purple lacing, rather feathery, is one of the best. George White (Paul's) light purple lacing is an old variety, but still excellent. Paul's Emmeline, heavy purple lacing, superb petal, and a very fine flower, should be in every collection. Turner's Galopin has heavy purple lacing, good petal, and fine in form. Hooper's Victory is discarded. Paul's William Paul, a late variety, a fine rosy red lacing, is one of the best. Hooper's James Douglas is a very bad grower but a very fine flower.

Mr. Brown adopts layering as his mode of propagation; he is now in the thick of it, and there can be no question as to the great advantages in doing so, as early, strong, well-rooted plants are ready for planting in September.—W. DEAN.

INSECTS OF THE FLOWER GARDEN.

(Continued from page 437, last volume.)

If insects of the aphid tribe are, in the usual order of things, the most numerous about gardens, the most conspicuous are certainly the hosts of species belonging to the tribe of two-winged flies. We see them both in sunshine and in shade (though they prefer the former) from the first warm days of spring to the last sunny days of autumn which usher in winter, and they are on the wing all the daylight; but, as a rule, flies do not take excursions after dark. In this respect they are like insects of the bee tribe, some of which many species of flies nearly resemble, while there are also bees that are commonly called flies. Considered as personal foes flies are really more annoying to us than bees, though they cannot sting, since in some species a puncture from the proboscis becomes the cause of irritation lasting several days, owing to poison being thrown into the wound. Readers will remember the recent case of blood-poisoning by the so-called "bite" of a gadfly at Hatfield, Mr. Balfour's private secretary being the victim. This must be regarded as an exceptional occurrence; but many persons have suffered severely in the summer from the stings of the common gnat or some of its relatives. It is not only in the open country that these insects attack people, they do so frequently in gardens, and one reason for this is that some gardeners have tanks or tubs of rain water which attract gnats, and in which they place their boats of eggs, the larvæ being aquatic. It is therefore desirable, for the comfort of those who may be liable to attacks from such insects, that any water receptacles in which they might breed should either be emptied

whenever the presence of gnat larvæ is discovered, or else so covered over that the insects cannot deposit their eggs.

The objects with which flies haunt the flower beds and plant houses are various. Many species come for the honey, and a few eat the pollen of flowers, as Prof. J. R. Green remarks. Flies generally exhibit only a low order of intelligence, hence in their visits to flowers they show themselves to be both shy and lazy. It has been noticed that they resort to yellow or white flowers quite twice as often as they do to red or blue ones. Like the bees, they do us service by carrying pollen from one flower to another upon their bodies, and are specially useful amongst the plants where the male and female flowers are separate. Death is the penalty which some flies pay who are enticed by a sweet secretion to enter the pitchers of species of *Cephalotus*, *Sarracenia*, and other exotics, which are conspicuous insect killers, and we have also a few native plants that entrap small insects; the Sundew is an instance. Then there are flowers which do not kill flies, but hold them in temporary confinement, such as the *Arum* and the *Aristolochia*, and this evidently helps on fertilisation. Entering one of these a fly has to push past a fringe of hairs, which afterwards spring back, keeping it prisoner till they have withered. Should the insect have entered bearing pollen grains of that particular species it is likely to leave them on the stigmas, and will probably quit the flower with a fresh supply to bear elsewhere received from its anthers. We may safely regard the majority of flies that visit our flowers as neither friends nor foes, but there are those whose habits are predatory, and which either in the imago or larva state seize other insects annoying to us; also there are groups of flies which are certainly unwelcome to us, for they leave behind eggs which produce larvæ certainly mischievous.

The name of "fly" is not, however, the sole property of the Dipterous order, for it is commonly applied to the aphides, green, black, and brown, though they might more appropriately bear that of "bugs," which suits their position and habit of life. Several small beetles have also been called flies, but I am glad to think most gardeners are now able to discriminate between a true and a supposed fly without being learned in entomology. To the larva of a fly the appellation of maggot is familiarly given, an expressive word, coming from an old phrase alluding to the rapidity with which flies breed or increase. Also it is sometimes called a grub. This name is applied to larvæ of various insects that are really or seemingly legless, and to their stumpy or short pupæ. Though all the larvæ of flies lack these useful appendages, most of them display much activity, and possess an array of muscles enabling them to force their way through obstacles, but of course they cannot crawl on flat surfaces. Some fly larvæ are exceptional, in remaining without motion all their life, hidden amongst the substance supplying them with food.

I think any ordinary observer who has watched flies will have noted the fact that they might be readily divided into two groups by this peculiarity, that some have long, thin antennæ or "feelers," and some have short. Those with the thread-like antennæ are, besides, remarkable for slight bodies, small heads and long legs, which, when the insects are on the wing, are stretched backwards and downwards. We call these flies the *Nemocera*, but they constitute the smaller group. The greater number of these insects belong to the *Brachycera* division, having antennæ with only a few joints and stoutish bodies. Passing by some curious and tiny flies, more often seen hopping than flying, feeders upon fungi, and therefore not particularly noticeable in flower gardens, we come first to the very pretty and lively flies which are called the *Cecidomyiæ*, and which put their mark upon some of our garden plants. Many people probably consider them to be small gnats, though they are distinct from those familiar insects, but, like them, they have antennæ, which, as a glass shows, are very ornamental, and the little glossy wings exhibit rainbow tints. Everybody has seen the knobby enlargements on the stalks and leaves of the common Nettle, and the reddish swellings at the tips of the boughs of the Osier; these are the homes of *Cecidomyia* larvæ; nor are such absent from the flower garden, where they contort shoots or buds, produce galls upon leaves, and even disfigure flowers by making them their abodes. On the *Spiræa*, for instance, we often find red and green warts caused by *C. ulmaria*, and I have detected upon the *Chrysanthemum* tiny galls, caused, presumably, by one of these flies, which, however, does not appear to be common, and only touches the foliage, not the flowers.

Sociality is characteristic of the *Cecidomyiæ*, and parties of them circle about their favourite plants at early morning during the season they are on the wing. Chasing them would be comparatively useless, but it is possible to decrease their numbers by removing and destroying leaves or flowers showing the presence of the larvæ. It is seldom, however, that they are abundant enough upon any plant to disfigure it seriously. But I have been asked whether, seeing the presence of the larvæ of these gall-gnats—shall

we call them?—causes local swellings, they may not have an unhealthy effect upon a plant, affecting its sap generally. So far as our investigations have gone there seems to be no proof that these larvæ affect the vitality to any extent; the most they are likely to do, even if numerous, would be to somewhat retard growth.

Some have wondered what is the life of these flies during the winter months. Evidently the larvæ have then quitted the plants, and either pass some months as pupæ on or near the surface of the earth, or hybernate in the winged state, hiding themselves amongst evergreens, in nooks and crannies, wherever they can find shelter from the storms of winter.—ENTOMOLOGIST.

ROCK GARDENS.

(Continued from page 374, last vol.).

Now that the hurry, scurry, the bustle and confusion (not of the General Election) of the Rose Exhibition season is over, and once more amateurs and professionals have put aside their boxes and tubes and all the paraphernalia of their contests, and can now discuss their achievements, "can shoulder their crutch and tell how deeds were done," I may resume these short notes on the Rock Garden. Thanks to a newly developed taste, at many of the Rose Shows one was allowed to think that there were other flowers in the world besides the Queen, for at many of the Exhibitions—Hitchin, Hereford, Chester, &c., prizes were offered locally for collections of herbaceous plants. It is too late to include alpinas, and indeed if they were admitted their delicate beauty would be overpowered by the more brilliant flowers from the herbaceous garden, but they quickened one's tastes and gave many a useful lesson. The most striking plant that I have seen was a spike of *Eremurus Bungei*, exhibited by the Rev. F. Page Roberts at Chester. It was a thing of beauty, and, next to *E. himalaicus*, the finest I have seen.

In resuming these notes I hope my readers will distinctly understand two things—First, that I do not presume to speak with any degree of authority. As I have frequently said, I am no botanist, and therefore I have arrived at what I know of the subject through my own experience, and especially through my own failures. The other is, that my rockery is really a very small affair. Persons might imagine otherwise from the number of plants I mention; but it is remarkable what a number of things one can grow of these dwarf Alpines. I am contented to grow one specimen of a plant where perhaps others would grow a dozen, and though I lose in effect, yet I gain by being able to grow a good many things I must otherwise discard. And now to resume.

Myosotis.—The dwarf alpine varieties of the Forget-me-not are very beautiful, but they have an unfortunate tendency under cultivation to lose their dwarf character, to become more gross, and under the influence of good feeding to disappoint the grower, who views them then with the same disgust that the stud groom does the little boy he thought would make a capital jockey, but who, under the influence of good living, has spread out and utterly disappointed him. So I have, after trying them several times, concluded it is no use striving to fight against it, have given them up, and am now contented to let *dissitiflora* reign supreme without fear of rivalry.

Lithospermum prostratum is one of those plants about which I feel somewhat ashamed. I have seen it so luxuriant in many places, and I have been so frequently told that it is a most easy plant to grow that to be obliged to confess failure is very humiliating; yet so it has been with me. For years I have tried it, have put it in all aspects and in soil which I was told was most suitable for it, yet it has absolutely refused to make itself at home with me; in some cases dying outright, in others dragging out a miserable existence. I am again giving it another place, and hope it may succeed. This sort of thing has happened to me with other plants, and then without any apparent reason a plant has asserted itself, and thriven just as well as it had failed before. Of the beauty of this low-growing alpine shrub with its brilliant blue flowers there can hardly be a question, and as I have seen it in some places it formed a most delightful object.

Meconopsis cambrica, the yellow Welsh Poppy, very similar in appearance to the Iceland Poppy, is said to like shade. I have found it indifferent as to position, soil, or anything else, seeding itself freely, and coming up in all sorts of places, both in the rockery and in the border, so that one has to be very careful that it does not interfere with other plants.

Nierembergia rivularis, another plant with which I have not been successful, and yet I am told most easily grown, so I hope to give it another trial. It is a dwarf trailing plant with white flowers, and, as its name implies, likes a damp place.

Oenothera marginata, a very beautiful and sweet-scented flower. The individual flowers are large, and with a most delicate

fragrance, alas! only lasting one evening; but they are produced abundantly, and so the bloom continues for some time. It has a curious way of rambling under ground, and appearing in quite a different place to that in which it was planted, and so perhaps it is more suited for the border than for the rockery. I have a plant of it in my herbaceous border. I planted it on one side of the walk, and it has now travelled over underneath the walk to the opposite border where it is flourishing most vigorously. I shall be curious to watch its roving propensity.

Omphalodes Luciliae.—A dwarf alpine plant with flowers of the most lovely shade of soft blue. It is not a very easy plant to grow, nor does it with me increase in size very much, while to propagate it by division of the root seems about hopeless, unlike the more common species *Omphalodes verna*; few flowers come out on each truss at a time, but their lovely shades of colour makes up for any deficiency in this respect.

Onosma taurica.—A very beautiful plant with large racemes of bright yellow drooping flowers, slightly fragrant. It is very showy and worthy of every care. I have not given any protection to mine during the last two winters, and it has succeeded in fairly good condition. It likes a dry situation, and I daresay would like a covering in winter to protect it from the heavy rain and snow. Perhaps one of the most suitable places for it is a dry sloping bank. Although perhaps sometimes overrated it is a most desirable plant, and is sure to attract notice on the rockery.

Papaver nudicaule, the charming Iceland Poppy, is deserving of a place anywhere and everywhere. I think, perhaps, except on large rockeries, it is better to have it as a border plant. The three shades of colour, orange, yellow, and white, are exceedingly pure and bright, the orange one, sometimes called *miniatum*, is especially bright, and when the three colours are combined in a vase they make an exceedingly pretty decoration, and they have none of the disagreeable odour which makes some kinds of Poppies so objectionable in a room.

Plumbago Larpentæ, a late growing and late blooming Alpine plant, with flowers of a deep mazarine blue. The foliage also is very pretty, the young shoots being of a dark olive colour. While perfectly hardy, it very often suffers from an early autumn frost.

Primulas.—Of this extensive and beautiful family there are many which are of easy, and some apparently of difficult culture. Especially is this true of the genuine alpine species. I suppose most persons have had this experience with regard to such kinds as *minima* and *Allioni*, while the Himalayan species are more robust, so much so that some of them can be hardly considered alpinas.

Primula farinosa is an exquisite little Primrose, a native of some of the northern parts of our islands, and abundant throughout the mountainous regions of Europe. The flowers are small, but produced in dense clusters of a rosy pink colour.

Primula scotica, allied to the above, and also a native plant, is very pretty; but I have found difficult to grow. It ought to be grown amongst grass, but then the grass would require to be kept quite closely cut or it would soon overpower it.

Primula marginata is sometimes confused with *P. Auricula marginata*, both having yellow flowers, and both being desirable plants for the rockery. By some the latter is supposed to be the progenitor of our beautiful florist Auriculas.

Primula nivalis.—A very beautiful species with pure white flowers, and a plant that should be grown in good sized clumps, when in the early spring it is a very pleasing object.

Primula Reidi.—A charming species with bold scarlet flowers, but its claims to a position on the hardy rockery has yet to be established, some considering it too tender, and others regarding it as a biennial.

Primula rosea.—This, and especially the variety *grandiflora*, is amongst the most beautiful and highly coloured of the family. It requires a somewhat shady place, where it grows freely. The flowers are of a very deep rose colour. I have found it better after a few years to break up the plant, and replant the separate crowns, as it is apt to become hard, and does not then bloom so freely.

Puschkinia scilloides.—A charming bulb, allied to *Scilla*, having a very neat habit and beautiful blue flowers. It is one of those plants of which slugs are especially fond, and it requires great diligence in keeping it from them. I have surrounded my plants with a zinc collar, and yet withal that have had to search for the marauders at night, finding them literally in dozens. They seem to be so eager for it that they attack the plants earlier in the evening, and so are more readily captured.

Ramondia pyrenaica one of the most pleasing of Alpine plants coming from the Pyrenees, where it grows on the face of the rocks in positions entirely excluded from the rays of the sun, and this position must be imitated. I have seen this done most successfully at St. Albans Court near Wingham, where large masses of red sandstone had been placed in a position facing the north and holes were bored in the face of them in which the *Ramondias* were

planted; here they flourished most luxuriantly and seeded all over the rock garden. It is usually said that this must be planted on the slope, but in talking over it with Mr. Wolley Dod the other day, he said that it was not absolutely necessary, and that it flourished with him quite as well when planted on a level surface. I said to him that I found it was not a very long-lived plant and that I had noticed that my larger plants had become hard, the leaves less luxuriant and the flowers not so abundant. He did not agree with me in this, but said he had plants twelve and thirteen years old flourishing and flowering very freely, and that probably mine had by some means or other been bit by the sun which frizzles them up. This may be possible, although they occupy the same place as they have done for years. It is a very attractive little plant with flowers resembling somewhat some of the Solani, although in truth it is more allied to the Mulleins and used to be classed under the *Verbascum*, and was called the Mountain Mullein. A white variety has been introduced of late years by Fröbel of Zurich, and is very attractive.

Phyteuma comosum.—A rare and very curious Alpine plant, which it is almost impossible to describe, and seems to be very difficult to grow. It requires rough grit and to be planted, I believe, amongst broken stones, and is impatient of wet in the winter. There is certainly no more curious Alpine than this, and yet I have rarely seen it in good condition in the gardens I have visited where Alpine plants are grown.

Pinguicula grandiflora.—This great Irish Butterwort is a most beautiful bog plant. I have tried it, but I fear it is hopeless unless where a bog can be imitated. It does well on Messrs. Paul's grounds at High Beech, in Epping Forest, and I saw them the other day in an artificial bog at Mr. Carrington Leys at St. Helen's, near Maidstone. Probably it does better in the cooler and moister parts of our islands.—D., Deal.



CATTLEYA ACKLANDIÆ.

THOUGH by no means a new addition, yet this remarkable *Cattleya* is seldom seen in flower. It was named by Dr. Lindley after Lady Ackland of Devonshire. In shape the flowers are somewhat like *C. bicolor*. The growths are about 6 inches long, terete, and jointed, with a pair of terminal leaves, elliptical and fleshy. The peduncle, bearing one or two flowers, rises from between the leaves. The sepals and petals are spreading, each nearly 2 inches long, fleshy, greenish yellow, finely blotched and spotted with dark blackish purple; the markings are seen less distinctly on the under sides. The lip is large and three-lobed; side lobes small, not covering the column; centre lobe, after a slight contraction, broadens considerably; colour deep purple with slightly darker veinings. The column, which is very broad, is also most conspicuous, and is an intense purple. The plant is a native of Brazil, and may be grown on rafts or in baskets suspended in the *Cattleya* house. I have seen excellent plants grown in peat and moss, but which never flowered. It requires but little moisture. A plant now flowering in the cool Orchid house at Kew is growing on a block of birch, with a little sphagnum kept over the roots by means of wire. If someone could solve the secret of successfully flowering *C. Acklandiæ* it would soon become extensively cultivated.—C. K.

BULBOPHYLLUM BARBIGERUM.

IN this Orchid we seem to have a kind of connecting link between the animal and the vegetable world. Though not by any means a "florists' flower," this wonderful plant is certainly something more than a botanical curiosity. I believe that a plant was exhibited at the Temple Show of 1891 in Sir Trevor Lawrence's group of Orchids, and attracted crowds of people by its curious actions. A plant is at present flowering in the warm Orchid house at Kew, and having been noted in a local paper many visitors have gone to see the "thing." The pseudo-bulbs are small, and surmounted by solitary fleshy leaves about $1\frac{1}{2}$ to 2 inches long; the peduncles rise from the base of the bulbs, bearing racemes of six to twelve flowers. The sepals are small and brownish red, and petals minute. But the lip makes up for their shortcomings; it has a long body, covered with very short yellow velvety hairs; at the end, on both upper and under sides, are tufts of fine purple hairs, and at the extreme tip a cluster of longer purplish threads; these hairs all continually move about. The lip is articulate with the column, and moves up and down in a manner that makes one wonder if in this case

animal sense has not become connected with plant movements. A figure may be seen in the "Bot. Mag.," vol. 87, t. 5288. *B. barbigerum* was introduced by Messrs. Loddiges, from Sierra Leone, in 1836.—C. K.

ANGULOAS AND M. LINDEN.

IN reference to our note on Anguloas on page 51, we have the pleasure to publish a correction we have received from M. Lucien Linden, of the "Horticulture Internationale" of Brussels. This being of some historic interest we give his communication in detail:—"My father has read this morning the note on Anguloas published in your estimable Journal, p. 51, and he has been surprised to see it there mentioned that he had been sent to South America at the expense of some gentlemen to collect Orchids. He instructs me to make known that this is an error, his different voyages having been undertaken by the order and on account of the Belgian Government. What has given rise to this mistake is, that when on his third voyage, undertaken in 1842, in Venezuela, Columbia, and the Great Antilles, my father had sent some cases of Orchids to Mr. Sigismund Rücker at Wandsworth. In these cases were found the Anguloas mentioned in the article of 'C. K.' The thousands of species of dried plants which figure in the large herbaria of Europe, as well as the numerous zoological collections collected by my father in these voyages, indicate sufficiently that they have not been the work of a collector whose special mission was to collect Orchids."

NOTES BY THE WAY.

CHESTER.

CHESTER is one of those towns which have their surprises for those who do not weigh its richness of historical association with its nearness to the great western port on the Mersey, but class it with the hum-drum provincial places of which types must be familiar to everyone. The connection between the two is so obvious that a little reflection usually suffices to correct the mistake; but even if this should not be so, the truth dawns upon the visitor when his name in the hotel book is seen to follow that of a stranger from Mashonaland, half a dozen others from the "hub of the universe" and other American towns; while in place of the expected provincialisms in speech his ears are saluted by Yankee nasalities. The truth is that large numbers of the Americans who support their expressed contempt for this effete old country by pouring into it via Liverpool, find in the ancient border town an attraction too powerful to be passed by. In the average American the bump of antiquarianism (if the phrenologists admit such a landmark on the human cranium) is largely developed, and in Chester there is abundant material with which to gratify it. Thus it comes about that ideas formed of the town as a kind of Sleepy Hollow are rapidly dispelled, and in reality it proves to be a Wideawakeville of the most pronounced description. The contrast between the town and its inhabitants is very striking. The former is quaint, mediæval and stately, savouring of past centuries; the latter are bustling, alert, and up to date, with a business-like 1892 air about them. If in the grim recesses on the city walls at the foot of which flows the rock-lined river, the imagination can replace an armoured sentinel of the middle ages, the vision is knocked down, skittle-like, by the blandishments of a guide book seraph, whose persistency would strike a Maltese shore boy aghast with admiration and envy. If in the glorious form of woman there is an anatomical unit anywhere in the wide world so utterly deaf and blind to every form of negative, expressed or implied, as the guide-sellers on Chester walls, she should be preserved for use at fashionable bazaars. Her talents are at present wasted. As for the journalist who relieved himself of her presence by turning her unwelcome attention to a harmless and inoffensive companion of the pen musing peacefully on the past, he displayed a resourcefulness in extremity that would have done credit to a Fleet Street fruit-seller, who will contrive to cheat you even while he is obeying the "moving-on" command of the policeman beside him.

A GARDENLESS CITY.

Chester, like many of Hodge's Pear trees, has overgrown its walls and spread out branches far beyond the stream which encircles it. On one side, which I can only localise by saying that it is opposite the spot where our guide insisted on relating his boyish experiences of outdoor executions, notwithstanding strong hints that they could be dispensed with, there is much tree beauty, albeit the view is rather distant, and the residences of Chester's great peer out from amongst the foliage. The aforesaid guide, who mingled his professional explanations with minute details of his personal character and career, had apparently stuffed himself too full of antiquarian lore for the delectation of the wandering American to hold any information about modern gardens for the benefit of those interested in them. But we were casual customers, so to say, and judging by his other exploits there is little doubt that he would have fully prepared himself for the emergency had he received fair warning that we were going to be there. Still, he knew of Eaton and Hawarden, and was able to inform us of the various means of reaching them, the cost ranging from 6s. to 9d.; but, unfortunately, time did not admit of their being visited. So far as can be seen from its walls Chester is not a city of flowers, and if an occasional garden was seen it was a half-hearted, out-of-place-looking thing which did not

tempt us to linger. To have wandered round the outskirts of the town would have revealed something better doubtless, but the shades of night had fallen by the time the stream of eloquence from our guide had run its course, and we were fain to leave the modern side unstudied.

DICKSONS, LIMITED.

Whatever may be the shortcomings of Chester so far as private gardening is concerned, she amply atones for them in the wonderful variety and extent of her great trade establishment. About 500 acres represent the land under nursery cultivation by Dicksons, Limited, and it really provides a very remarkable proof of all-round horticultural growth. There are two or three nurseries which it was too wet to visit, and some of which have names that I should be very sorry to have to pronounce. But that they are well worth inspection could be judged from the character of what may be termed the home portion. This is situated quite near the town, certainly less than a mile from the station, although as I had to make my way thither on foot through a tremendous down-pour the distance multiplied itself several times. Its general aspect is such as is appropriate to a large plant establishment, being rendered bright and attractive by judiciously planted shrubs and flowers. There is a considerable number of houses, although they represent only a portion of the total amount of glass. It is pretty well known that Dicksons, Limited, combines the strength of two great establishments, between which a wise amalgamation took place a few years ago, hence the wonderful scope of the nursery. The principals are all practical business men of long experience, well fitted to guide so colossal a concern on a smooth and prosperous course. Fortune, kinder in some respect than in the weather, threw me into the hands of Mr. John Dickson, who displayed a practical mind by the production of a capacious waterproof, and proved a most courteous and able guide. It would have been well had time and the elements permitted a fuller survey, but even under difficulties of the nature indicated many things were seen well worthy of note.

FLORISTS' FLOWERS.

Tuberous Begonias hold so important a place now amongst florists' flowers that in an establishment like Dickson's they are looked for on a large scale. There is no disappointment. The collection is an extensive and beautiful one, in which good types both of plant and flower are observable. The compact, dwarf habit, and long sturdy flower stems, carrying the blooms well clear of the leaves, which are the desiderata now, are strongly in evidence. Moreover, the quality of bloom is admirable, although no attempt is made to grow the plants into exhibition condition. If anything surprised me in connection with them it was the number of breaks into the Picotee-edged type. There was not one but several, not doubles only but singles as well. Chester is not behind the times here. It seems certain that we shall ere long have a representative collection of Picotee-edged flowers, such as would satisfy even Mr. Gumbleton, and we may be forgiven for anticipating a time when we shall have to begin classifying them into heavy and light edge, just as we do Picotees. But to commence this kind of thing would be a doubtful blessing. Zonal and Ivy-leaved Pelargoniums are largely grown. Of the former it is pleasant to observe good examples of the round-flowered type. There is now so rich a store of them that the quartered, sharp-petalled varieties, uneven in outline and often very faulty in the truss, might very well be swept out of existence. They are certainly not wanted in the place of their smooth, evenly moulded, and well-rounded sisters. The Ivy-leaved are beautiful both in pots and out of doors. I venture to think that if the beds of the former could be seen as they are at Chester, the plants allowed to trail and then pegged down, the flattery of imitation would soon set in. Souvenir de Charles Turner is perhaps unapproachable for pots, but bedded out as indicated, it is hard to imagine anything more beautiful than Madame Crousse. Gloxinias are another bright feature. The firm have a good strain, well and largely grown, to tempt their customers, and drive visitors of another type to their note books.

FOLIAGE PLANTS.

There is nothing more astonishing than to observe the enormous scale on which foliage plants are grown in the Chester nurseries. They are proportionately a greater feature than the flowering plants. To mention even a tithe of them would be impossible, for the collection is one of the most complete in the kingdom. Crotons and Dracenas are cultivated in thousands, and so, to turn to Palms, are such popular kinds as Kentia Belmoreana and K. Forsteriana. These are sold literally by thousands when in a small state, and though more profitable at about six years' growth it is very difficult to get them to that stage owing to the enormous demand for them while small. Ferns again are cultivated in surprising quantities. The best known kinds are in very strong force. Mr. Dickson drew my attention to a novelty amongst them that is likely to take a high place. It is called *Adiantum Capillus-Veneris imbricatus*, but do not let any reader connect it in appearance with the old native Maidenhair, for it is quite distinct, and at a casual glance the relationship would not strike one. It more resembles *A. farleyense*, but has a notable advantage over that valuable species in being more hardy. A mishap to a boiler last winter proved in one respect to be a blessing in disguise, for it showed that with the admission of 3° or 4° of frost *A. farleyense* was killed while the newcomer was uninjured. The hardiness would be anticipated from its parentage. It is a most graceful Fern, and promises to have a useful and popular career.

JAPANESE MAPLES.

Acers hold a prominent place amongst the foliage plants, not only out of doors, but under glass. There is a large house full of them, and

their value for conservatory decoration is clearly seen. This is a feature not met with everywhere. When a good collection is grown the distinctness of the leafage and colouring is very striking. Many are finely cut in the leaf, and very graceful, while the rich red-brown, bronzy, and purple of the foliage is effectively blended and contrasted. Especially beautiful are *palmatum*, green; *atropurpureum*, bronzy purple; *dissectum*, bright green, and very graceful; *gracilis*, green, with purple edge and shade; *septemlobum*, green; *s. purpureum*, purple; *s. marmoratum*, green, variegated with white and rose, very beautiful; *japonicum*, pale green; *j. laciniatum*, green, deeply cut; *Hookerianum*, green; and *pietum*, green with tints of bronze. It is easy to realise what beautiful effects could be produced in many private establishments by a judicious association of the green and coloured Maples. The aim would be to secure smooth, quiet harmonies, rather than bold contrasts, and only those with the "nigger girl" idea of colour would fail to enjoy the effect.

ROSES AND FRUIT TREES.

Fifteen acres of Roses mean a very large number of plants and a profuse display of bloom, notwithstanding that the rush of the cut-backs was just over and that of the maidens just coming on. To succeed under the conditions to which the plants are subjected in the Chester nurseries they must be sturdy and vigorous. The soil is heavy and the situation exposed, so that they have to fight against the full effects of extreme cold. It is by no means certain that this is a disadvantage from the nurseryman's point of view, certainly it is not from the buyer's. If in the absence of a generous and mellow soil the former fail to secure the magnificent show blooms that are produced elsewhere there is the compensation of a hardy, vigorous growth, and little doubt, consequently, of the plants succeeding and giving satisfaction wherever they may be planted. Something the same may be said of the fruit trees. They are hardened by exposure, not grown tenderly, and when planted under proper conditions there is little fear of failure wherever they may be. The trade in fruit trees is really amazing, and we see acres of all kinds and types. Of large trained trees, Apples and Plums in particular, there is a splendid collection, also of pot trees, such as pyramid Peaches, Nectarines, and Pears. The demand for these, which had fallen off somewhat, has now sprung up with increased force. Bush fruit is extensively grown, especially Gooseberries. Whinham's Industry, Crown Bob, Early Sulphur, Red Champagne, Warrington, Whitesmith, Golden Drop, and Pitmaston Green Gage, a fruit of delicious quality, are sold in thousands, and the collection of Lancashire prize varieties is very large and complete.

FOREST TREES AND CONIFERS.

It is difficult to convey an idea of the magnitude of the trade in these at Dicksons'. A day or two in the nurseries would be required for that. It is within the bounds to say that Larch, Spruce, and Scotch Fir—to instance three only—are grown by millions. Almost the same might be said of material sold for game cover, such as Laurels, Berberis, Box, Hollies, Hazels, Myrobalan Plum, and Quick, while one order for 50,000 or 100,000 Thorns is not at all uncommon. Then there are enormous stocks of Conifers, such as *Abies Menziesii*, *A. canadensis*, *A. orientalis*, and *A. Douglasii*, many thousands of the latter being sold every year; Cedars, such as *atlantica* and *deodara*; *Araucarias*; Cypressess, such as *Cupressus Lawsoniana*, *L. erecta viridis*, Silver Queen, and *lutea*, the latter beautiful silver and golden kinds selling very largely; *Piceas*, such as *Webbiana*, which is grown at the Pwllheli nurseries in a milder locality, *Nordmanniana*, *nobilis*, *Lowiana*, and *grandis*; and Pines, such as *Pinus insignis*, *exce'sa*, *cembra*, *Benthiana*, *laricio*, *austriaca* (grand for a wind screen), *Strobus*, and *sylvestris*. Then there are *Retinosporas*, *Taxus*, *Wellingtonias*, *Thuias*, and a great variety of evergreen and deciduous trees and shrubs, such as *Cytisus*, *Escallonias*, *Euonymus*, Bamboos, *Aucubas*, *Hypericums*, *Sweet Bays*, and *Ligustrums*. To mention more would be merely to multiply names. Suffice it to say that in variety, extent, and excellence of culture Dicksons, Limited, at once astonish and delight the visitor.—W. P. W.

WHICH ARE THE BEST STRAWBERRIES?

I HAVE just received a list of new Strawberries. I, for one, am getting tired of trying new varieties, as I find so few of them bear out their promise. They are generally wanting in some point or other. The great Noble, of which so much was said and written, turns out to be great only in size. It is very difficult to choose amongst so many. What is wanted and asked for on all hands is an improved British Queen or Strawberry of similar flavour. Cannot the Queen and Dr. Hogg be crossed until a good grower and free bearer of that flavour is produced? The only Strawberries sold by the fruiterers and grown about Cheltenham are Sir Joseph Paxton and President. Four sorts only are really wanted—one early, two midseason, and one late. Which are considered the best four of good flavour, good growers, and free bearers; fair size, not too small or too large?—B.

[We leave the choice of the best four Strawberries to our readers. The only way in which we could discover the best for our garden was by trying many; then when we settled the point to our satisfaction, a neighbour two miles distant planted our selection, and some of them he described as worthless with him. We hesitate, therefore, to name four varieties that will be the best for everybody regardless of soil and situation. The "great Noble" is great only in size, says "B." Another grower says it is great in money making, as he sold all his

best fruit, about a ton, at 2s. a pound, from an open field. Do any of our readers know anything about Knivett's or Knevett's Seedling? It is said to possess all the high quality of British Queen, plus hardiness and vigour of growth.]



EVENTS OF THE WEEK.—Shows are not quite so numerous during the ensuing week as they have been recently. On Saturday, August 6th, the Midland Carnation Show will be held in the Botanical Gardens, Edgbaston, Birmingham, where a good display is expected. The Committees of the Royal Horticultural Society meet at the Drill Hall, Westminster, on Tuesday, August 9th, and a lecture on Fuchsias will be given by Mr. G. Fry at the afternoon meeting. There will be an Exhibition at Maidenhead on Thursday, August 11th. Messrs. Protheroe & Morris's usual sale of Orchids takes place on Friday at their auction rooms in Cheapside.

— **THE WEATHER IN LONDON.**—The weather has been warm and summer-like of late, though some days have not been bright. Yesterday (Wednesday) was very dull, the wind having a tendency to back from north-west to west or south-west, and rain is not unlikely to follow. The dry weather has kept the Potato disease in check more effectively than has *bouillie*, some of which has perhaps been wasted.

— **LAYERING CARNATIONS.**—I have been trying the method of making the tongue as described by "B.," page 50, but fail to see that it has any advantage, either in neatness of work or saving time, over the old plan of inserting the knife just below the joint and cutting upwards.—T. S.

— **CARNATION MADAME DE WAROCQUE.**—If I may form an opinion on a single plant of this variety placed out on a border with other Carnations I should say that it will be a very useful one for that purpose. The flowers have opened well, and plenty of strong healthy "grass" has been produced. I hope to put out several plants next season.—T. S.

— **HEAVY TOMATOES.**—The Tomatoes exhibited by Mr. R. Gilbert of Burghley at the last meeting of the Royal Horticultural Society attracted considerable attention. They were perfect in shape and of an enormous size, six fruits weighing 10½ lbs. The variety was Royal Sovereign. It would be interesting to know if any reader has grown heavier Tomatoes than these.—C.

— **CARNATION LADY NINA BALFOUR.**—Messrs. Laing & Mather send us from Kelso blooms of this new Carnation, which was certificated at the recent Show at Edinburgh. The flowers are blush pink in colour, borne on long rigid stems, and the calyx shows not the slightest sign of splitting. This broad petalled decorative Carnation is probably destined to meet with popular favour, for not only are the flowers attractive in colour and bold in character, but they are delightfully fragrant.

— **FLOWER SHOW AT SANDRINGHAM.**—The twenty-seventh annual Show of the Sandringham Estate Cottage Horticultural Society, promoted and patronised by the Prince and Princess of Wales, was held in Sandringham Park on July 27th. Besides cottagers' exhibits, there was a good collection of ornamental baskets of flowers, Ferns, bouquets, and table decorations. By permission of the Prince and Princess the whole of the grounds, conservatories, and green-houses were thrown open to the public.

— **CLEMATIS EMPRESS OF INDIA.**—This Clematis belongs to the Patens section, and is certainly a striking variety when in bloom. I lately saw a finely flowered plant on a south-east wall in the old Abbey gardens, Winchester, which is situated right in the heart of the city, having lately been acquired by the Corporation, and laid out for the benefit of the inhabitants. The gardens are under the charge of Mr. Foot, and they certainly do him credit for the orderly manner in which they are kept. The flowers of the above Clematis are unusually large, and the colour most striking. The young blossoms are of a deep violet shade, parts of which lighten to puce as the flowers mature, finishing off with a purple bar on each petal.—E. M.

— **LINCOLN'S INN GARDENS.**—By permission of the Benchers, the gardens of Lincoln's Inn are now open to the public every evening from half-past six until dusk, and on and after Aug. 15th until the middle of September they will be open from five o'clock until dusk. This permission has been accorded by the Benchers for many years past.

— **PRESENTATION TO MR. W. M. BAILLIE.**—Mr. Baillie, who has relinquished his charge as superintendent of the Luton Hoo Gardens, and who is shortly commencing business for himself as a nurseryman, seedsman, and florist, was on Saturday last presented with a very handsome marble clock by the gardeners on the estate. Mr. Baillie's retirement will be a great loss to Luton Hoo, and although his name has not appeared so prominently of late years in horticultural papers as it did formerly, he still ranks among the leading horticulturists of the day.

— **SUPPORTS FOR ASPARAGUS TOPS.**—Where Asparagus is grown in the modern style, with much more space than formerly, there is a greater opportunity for damage to be inflicted on the fully developed growth by heavy rains and wind than used to be the case when the rows were much closer together. Many persons do not realise the harm done to the roots through the tops being swayed to and fro by strong winds, aggravated by heavy rains, which tend to soften the soil about the stems. The most simple method of supporting the tops is by the aid of Pea sticks thrust into the soil among the stems, placing them on the eastern side of the plants, as the strongest wind comes from the south-west at this time of the year. Where it is possible to place a separate stake to each stem so much the better, but this can seldom be done.—E.

— **THE NATIONAL CO-OPERATIVE FESTIVAL.**—This now well-known co-operative event, which this year enters upon its fifth anniversary, will be held at the Crystal Palace on Saturday, August 20th. The promoters—who are representatives of working men's co-operative societies throughout the kingdom—intend to a great extent to follow their programme of previous years, and provide a flower show under the auspices of the Agricultural and Horticultural Association, an exhibition of co-operative productions from profit-sharing workshops, a great choral concert upon the Handel orchestra of 6000 voices, a choir contest for gold and silver medals, a public meeting, and many Crystal Palace attractions. The General Secretary is Mr. Wm. Broomhall, 49, Bedford Street, Strand, W.C., who will provide full details of the Society's work to inquirers.

— **DIPLADENIA BREARLEYANA.**—Last year we mixed a little of Thomson's manure among the peat and sand in potting one of our plants of the above named gorgeous Dipladenia; so pleased were we with the result that we have used it this year to our three plants, and have sent you two or three of the first flowers opened cut from a plant grown in a 14-inch pot. You will see from the leaves sent, and the size, substance, and deep colour of the bloom, that the plants have enjoyed their fare. Can you tell me if any of the newer varieties sent out lately are equal to D. Brearleyana and distinct in colour?—JOSEPH OLIVER. [We have not seen any finer Dipladenia flowers and foliage than the examples sent by our correspondent. The leaves are 7 inches long, 2½ to 3 inches wide, and remarkably stout in texture; flowers 5½ to 6 inches in diameter, of unusual substance and richness in colour. Thomas Speed and Lady Louisa Egerton we have seen as large as those before us, and they are quite distinct, the former rosy crimson, the latter pinkish white.]

— **VIOLA CUTTINGS.**—In order to secure a good stock of plants for next season's bedding, cuttings should be put in at once. It fortunately happens that these useful plants are both easily and quickly propagated in this way:—The cuttings selected should be those which are now springing from the base of the old plants. These should be cut off near the old stools if not more than 2 inches in length, if longer shorten them to about that length. Where any particular variety is scarce the old shoots which have been flowering during the spring and summer may also be made into cuttings, but as they take longer to strike and never make such fine plants as the younger shoots, they should only be used in cases where there is a scarcity of cuttings of the right type. A north or west border is a capital position in which to insert the cuttings. Prepare the ground by thoroughly stirring the surface. If the soil is inclined to be heavy fork in a little leaf or old potting soil. In all cases spread a thin layer of sand upon the surface, press with a board, and dibble in the cuttings 3 inches apart. This will allow them room to grow without crowding till they are planted in the flower beds, either in autumn or early spring.—H. DUNKIN.

— **THE MIDLAND CARNATION AND PICOTEE SOCIETY.**—The annual Exhibition of this Society will be held on Saturday, August 6th, in the Botanical Gardens, Edgbaston, Birmingham. The Society is favoured with influential patrons, and is managed by a strong committee. The schedule is encouraging to exhibitors, six prizes being offered in most of the classes by the Society, while special prizes are offered for specified varieties and kinds of Carnations. A large and interesting display may be expected, and a great floral treat provided for the inhabitants of the metropolis of the Midlands and friends from far and near. Mr. Robert Sydenham is Chairman of the Committee, also Treasurer, and Mr. William Dean Honorary Secretary of the Society.

— **THE BLACK KNOT ON FRUIT TREES.**—Has anyone noticed the black knot on Plum trees, on this side of the Atlantic? In Eastern America, says a daily contemporary, it is causing such destruction that a New York State farmer had in twelve months to root up 5000 trees. At one time this curious wart-like excrescence of the bark was thought to be a gall caused by an insect; but it has been conclusively proved to be simply a fungus which attacks not only cultivated Plums and Cherries, but also the wild species also. Kerosene, turpentine, linseed oil, sulphate of copper, and a mixture of red oxide of iron and linseed oil are among the many substances which have been tried with a view to destroying it. But the only effectual remedy is to cut down and burn the trees at once, thus ensuring the destruction of the spores of the fungus before they spread.

— **A WIDE circle of friends will be interested to hear of the marriage of the REV. F. CAMPBELL PAUL, Rector of St. Peter's, Bristol, and second son of Mr. W. Paul of Waltham Cross, with Miss Nora Kitto, eldest daughter of Rev. J. F. Kitto, Vicar of St. Martin's in the Fields, London.** Mr. Paul was for six years Curate of the Parish of St. Martin, during which period he gained the esteem and affectionate regard of the whole of that extensive parish, by his devotion to the duties of his important office. The high estimation in which Mr. Paul was held was shown in a remarkable manner by the distinguished congregation that assembled in the church to take part in the ceremony, which was performed on Wednesday, the 26th ult., by the Ven. Dr. Sinclair, Archdeacon of London. After the ceremony a large party of friends were entertained at the vicarage, where the many costly wedding presents were on view.

— **VARIEGATED CHRYSANTHEMUM FOLIAGE.**—An American contemporary recently submitted some variegated Chrysanthemum foliage to Mr. J. Thorpe for his opinion. In reply he writes as follows:—"The variegated Chrysanthemum is not a rarity. Raisers of seedlings frequently have variegation among the yearlings. A really good marginal variegation would be valuable, but the splashed forms have proved too unreliable. Some years ago in England there was a Pompon Chrysanthemum with variegated leaves resembling those of Mountain of Snow Pelargonium. This was used as a ribbon line in bedding. Its name was Progress, and it was sent out by Bull in 1858 or 1859." So far as my opinion is concerned, variegation in the foliage of Chrysanthemums is not desirable, and efforts to obtain such cannot be too strongly deprecated. If my memory does not deceive me a variety with variegated foliage was exhibited at Westminster Aquarium and elsewhere a year or two ago, and it was a poor weak thing compared with the robust, dark green leaves of the others.—**CHRYSANTH.**

— **CROCOSMA AUREA IMPERIALIS.**—The description given of the above named grand iridaceous plant in your last issue when intimating the award to it of a certificate of merit at the recent meeting of the Royal Horticultural Society, when it was exhibited by the Chairman of the Floral Committee, Mr. Marshall, is misleading, as instead of the plant having small yellow flowers, as your account says, its individual flowers are of at least the size of a crown piece and of a most brilliant shade of fiery orange colour. It is an exceedingly handsome plant raised by Herr Max Leichtlin of Baden. I have grown and bloomed it most beautifully in the open ground, but unfortunately lost it after the second blooming during the winter, more, I fancy, from excess of moisture during our long damp winters than from any effect of frost, of which we have little of any severity or long duration. The main bulb never blooms more than once, but throws off a number of stoloniferous suckers, each of which terminates in a flowering bulb. I am surprised that it has never before received a certificate of merit, as, though by far the handsomest of its family, it is by no means a new plant, but will always, I fear, be a somewhat scarce and expensive one owing to its inherent delicacy of constitution.—**BOSCOBEL.**

— **PEA DUKE OF ALBANY.**—This is a favourite Pea of mine, and it is difficult to beat even among so many. Those who have had the pleasure of its acquaintance need no advice on the matter, but to readers who have not grown it I would say, Lose no time, but make the "Duke" your sheet-anchor next season if free crops, fine pods, and excellent flavour are the points required. As I have before stated in the Journal we grow this variety for our second crop, and though the Peas are but a very short time behind the earliest in being ready for gathering, they are infinitely superior. Happening to have a warm snug place for the early crop, and by sowing the seed in a late vinery and growing the plants in pots until they are at least 1 foot high, we get our first "Dukes" in good time.—**E. M.**

— **THE PRICKLY PEAR.**—Mr. B. N. C. Fletcher has an interesting account of the manifold uses of the wild Cactus in the almost desert country between San Antonio, Texas, and Chihuahua, in Mexico, in the last issue of the "Kew Bulletin." In this region mentioned rain seldom falls, but when a shower refreshes the ground grass springs up only to be withered by the hot sun, and then blown in a fibrous cloud on the wind. However, around the base of the Cactus the blades remain fresh for a time. The draught oxen of the "prairie schooners" are fed upon the chopped up juicy branches, and after they are turned loose at night search of their own accord for the juicy fruit of this "Prickly Pear." Sheep also fatten on this fruit, which in many countries forms a large part of the poorer people's dietary—and goats, which in dry countries (like Morocco, Malta, Greece, and Mexico) indulge a propensity for climbing, manage to get at the "Pears" on the upper as well as the lower branches. A salad is made from the leaves, the dried branches are burnt, and the sap is used as size to mix with lime for whitewashing, and might be made into a good vegetable glue.

— **MOSELEY AND KING'S HEATH FLOWER SHOW.**—A correspondent sends us a list of the prizewinners at the above Show, which was held on the 1st inst., but in consequence of the pressure incident to the holiday week the names cannot be inserted. Another correspondent indicates the character of the Show as follows:—The entries for the various classes were more numerous than at previous Exhibitions, and four or five large marquees were filled with prettily arranged garden flowers, imposing collections of hothouse plants, fruit, and vegetables. The exhibits were divided under four heads—those sent by gentlemen's gardeners, by amateurs, by cottagers, and decorations by ladies. In the ladies' classes Mrs. Joseph Chamberlain and Mrs. C. P. Lane were pleased to award the prizes. Mrs. Chamberlain, who was accompanied by Mr. Chamberlain and Mr. Austen Chamberlain, arrived at the grounds during the morning, and was met by the President (Rev. D. H. C. Preedy), and was presented with a magnificent bouquet of flowers by Miss Dorothy Lane, a similar one being presented to Mrs. Lane by Miss Mary Hickling. Mr. Chamberlain expressed great pleasure at the Show, and was so delighted with some decorated mail carts prepared by children that he asked permission to present each competitor not gaining honours with a special prize of 5s.

— **CARTER'S DAISY PEA.**—A visit to witness the second application of bouillie bordelaise in one of Messrs. Carter's trial fields of Potatoes near Bromley, Kent, last week, resulted in a disappointment and a surprise. The official Superintendent of the trials was at the last moment prevented from being present, but there was compensation even under such circumstances in a field of Peas, of which it is safe to say the like could not be seen elsewhere. The Daisy Pea, so called by an American in signification of its excellence, was growing in rows about 3 feet apart, that distance being afforded for convenience of cultivating the land with horse power. The rows resembled piles of pods—great bright green pods as large as Telephone, and packed with fat peas from end to end. Not one pod was found with less than eight peas, but many, if not most, contained nine, not eight and an apology, but all full sized peas. Only plants of unusual sturdiness could have borne up under their load so well, and it is only fair to say that some of them were propped up by the pods resting on the ground one over the other in sloping order—a remarkable sight. The plants were between a foot and 15 inches high. The Daisy is strictly a dwarf Pea, but has left all other dwarfs behind in the size of its pods. The quality is of the best. For gardens of all sizes, allotments, and fields this new Pea is adapted, and into many it is bound to find its way. It promises to be a favourite family and a popular market Pea. It is distinct from all others, and likely to long hold a good position amongst the many fine varieties of Peas that the firm have been so fortunate as to introduce to the public. It was raised in their trial grounds at Forest Hill, follows the first earlies closely, and produces a long supply of high-class Peas by successional sowings. Its

merits have been recognised by the Royal Horticultural Society, and the verdict will be confirmed by all who grow such crops as may now be seen in the open field, and not rich soil at Bromley. In rich garden soil the plants might attain a height of 18 inches, and the rows would well deserve a few short supporting stakes.

— **EPERGNE DECORATIONS.**—Not the least interesting features of many summer exhibitions are the epergne decorations, very often confined to ladies—not only with any kind of garden flowers, but wild flowers and grasses. Here is an opportunity for displaying much taste in the arrangement, and this is generally embraced. What I have noticed, however, and wish here to give effect to, is the encroachment some competitors make on the schedule regulations by extending the decoration beyond the epergne itself, laying flowers and foliage on the cloth for fully 6 inches around, making the epergne certainly much more massive in its appearance. At the same time (unknowingly perhaps) such competitors lay themselves open to disqualification, because this form of arrangement is not confined to the regulation epergne. It would be well for competitors in the future to pay attention to this point. It may save the judges an unpleasant duty and themselves some mortification, for it cannot be denied that it is easier to make a more imposing arrangement by the addition than without it.—E. MOLYNEUX.

— **NITROGEN FOR GRASS.**—From some experiments with nitrogenous fertilisers on pasture fields made at the Storrs School Experiment Station in Connecticut, it appears that fertilisers containing potash or phosphoric acid alone are less effective for Grass than if they have some available nitrogen in addition. The Grasses, such as Timothy, Red Top, and the like, must be classed as “nitrogen consumers,” while Clover and the legumes are now called “nitrogen gatherers,” since it seems to be accepted that in some way they gather nitrogen from the air. It would seem desirable, therefore, that fertilisers for pastures, grass lands, and lawns should contain a considerable quantity of nitrogen in a readily available form. Such fertilisers not only increase the total yield of grass, but they also increase the percentage of protein in the crop. Since it is protein that makes blood, bone, muscle, and milk, and as this is the most important and costly ingredient in food, and apt also to be deficient in feeding stuffs, the increase of this substance is a matter worthy of consideration, and a strong additional argument for the use of nitrogenous fertilisers.

— **THE NONNEN MOTH.**—The current number of the “Kew Bulletin” contains a note on the Nonnen moth, which for a long time past has been taxing the resources of the forest conservators in various parts of the Continent. For two centuries this insect (*Liparis Monacha*) has been known to attack forest trees in Bavaria, but in 1890 the damage was estimated to amount to nearly £40,000. As the Bavarian woods are important public and private properties strenuous efforts are being made to check the pest. Already close on £100,000 have been incurred in the campaign against it. In 1890, 60,000 caterpillars were counted on one tree stem alone, and once a Fir tree is stripped bare it never grows again. The principal means taken to combat the enemy is painting rings of lime on the trunks, for it is found that though the caterpillars pass most of their time in the upper branches they either fall or crawl to the ground on warm days and return at night. The rings prevent the ascent, with the result that some 70 per cent. of them can be killed. In time, therefore, it is believed that the plague may be practically exterminated.

— **DWARF BEDDING LOBELIAS.**—By far the best pure white form of these pretty ornaments of our summer garden of the many tried by me is undoubtedly the one named *Reine Blanche*, which I had some two or three years ago from its raiser, whose name I unfortunately have quite forgotten. It is of most excellently compact habit of growth, and produces freely large well opened flowers of the purest shade of white. Some strong plants of it that I lifted from the open ground at the end of last bedding season not only bloomed during the whole winter and spring in the cool greenhouse, but are still covered with flowers, and are really quite a curiosity. A very beautiful and extremely useful deep blue flowered variety of an excellently compact and upright habit of growth is *Die Schöne Darmstadterin*, raised by Herr W. Pfitzer, Stuttgart, from whom I received it direct. Some years ago a variety purporting to have red flowers was sent out under the name of *Omen*, but it was soon discarded. This year Messrs. Carter have sent out *Formosa*, which is a great improvement in depth and brilliancy of colour, but it does not come quite true from seed, one of my plants being pale and dull. Its habit of growth is unfortunately rather straggling. From Messrs. Ryder of Sale I have also received a variety named *Novelty* not yet bloomed.—BOSCOBEL.

— **AN EFFECTIVE GROUP OF PLANTS.**—At the Winchester Show Mr. E. Hillier, nurseryman of that city, arranged a group of plants the whole width of the hall in front of the stage, which was so unique that a special note of it will not be out of the way. As a rule groups of miscellaneous plants are so stereotyped in their disposal that any change is always welcome. The plants employed on this occasion were of the usual order, with a few exceptions; but instead of “dotting” them here and there each genus was kept by itself, forming masses of one kind of plant only. The hall is probably 80 feet wide, the width of the group being about 6 feet. Standing singly at the back, the whole length of the group, were well-grown Palms 6 feet high. A groundwork of Maidenhair Fern was made, from which were arranged groups of a dark-coloured Clematis in small pots; next to them was another group of well-flowered plants of *Lilium Harrisii*; then came a patch of Tuberous Begonias, Zonal Pelargoniums, small well-flowered Tea Roses in pots, &c. Not the least striking was a number of well-grown plants of *Acer atro-purpurea*, the dark foliage of which contrasted excellently with the bright surroundings of colour and the green base of Ferns. The group was edged with small plants, as Lobelias, *Panicums*, &c., and reflected credit on Mr. E. Hillier, jun., for the tasteful manner in which the arrangement was made.—E. M.

— **EXHIBITING VEGETABLES AT SHOWS.**—From a purely picturesque aspect I think the common practice of showing collections of vegetables in deep unsightly round baskets to be very objectionable. No doubt it is a convenient method for exhibitors, because they can arrange their exhibits at home, and carry them in the baskets to the show with, so far, comparative ease. I observed the other day in a large tent at Highgate, devoted to cottagers' produce, that nearly all the side tabling was occupied with baskets of this kind, some very large ones, and there were about forty in all, if not more. Now generally the vegetables were excellent, but the baskets were very unsightly; still farther because placed in these baskets they were rather crowded, and would have presented a far more pleasing appearance if more fully displayed. Flat wooden trays are certainly more preferable, especially if for particular classes, made all of one size, as flower boxes are for exhibition purposes. These trays may be of about 3 inches inside depth and be painted green; for collections of four vegetables be 20 inches by 24, and for six dishes rather larger. In the case of collections of nine or twelve dishes the trays might be in pairs, so as to render the making of very large ones unnecessary. At Highgate practically one half the table area was unoccupied because the products were too crowded in the baskets, and as these were of the ordinary brown osier, and fully 10 inches deep, they were none too handsome. Proper flat trays would fill the tables entirely, and make a far more pleasing display. It is a pity that what are termed unlimited collections of garden produce should be invited from cottagers, for gardens are unduly stripped to furnish the required bulk. Committees of exhibitions should not form classes of that kind, but all should be so far within due bounds that no encouragement is given to waste simply for the purpose of taking prizes.—A. D.

HARDY FLOWERS FOR DECORATION.

HARDY flowers, both in a cut state and growing also, are destined in the future to take a prominent position in the decoration of English homes. It is not in a cut state that I wish to draw attention to their value, however, but in a growing condition in pots as employed in the formation of groups. At the Southampton Show, held the first week in August, two or three years since, Mr. Ladhams competed in the class for a miscellaneous group of plants. His group was with but few exceptions almost entirely composed of hardy herbaceous plants, which he grows so well, and although he did not obtain a higher position in the prize list than third (which was owing to the wording of the schedule favouring plants of more monetary value) his group was the centre of attraction by a flower-loving public. Such plants as *Lobelia cardinalis*, *L. fulgens*, *Campanula persicifolia* and its white form, also the double variety; and the blue and white forms of *C. pyramidalis* can be most effectively employed. *Hyacinthus candicans*, various Lilies, *Spiræas*, *Delphiniums*, *Liatris*, *Lychnis*, *Doronicums*, *Carnations*, *Pinks*, and *Chrysanthemum maximum* are similarly useful. In fact, these are but a few of the many plants which might be made use of for this purpose.

The point to observe is not to grow them in too large clumps. Choose strong crowns of each kind and confine them to somewhat small pots as a matter of convenience in arranging them. In associating hardy with hothouse plants a thick base of Maidenhair Fern gives a better effect, as many carry but a small quantity of their own foliage. This addition to the green base is all in favour of judicious grouping. What could be more effective in a group than well-grown examples of *Francoa ramosa*? and this (commonly called Bridal Wreath) is a hardy plant. Take, again, *Lilium auratum*, always admired. Canterbury Bells of colours not too bright; for instance, soft rose or pale pink,

light blue and white, are very effective. *Eulalia japonica variegata* is everywhere appreciated, and this is hardy; indeed, there appears to be no actual limit to the number of useful and effective hardy plants at command for decoration in a growing state. It only requires the nerve in exhibitors to employ them more freely in miscellaneous groups, where effect is the salient point to attend to. Where quality is the leading idea then hardy plants cannot expect to compete with Orchids; but for home decoration, where such stipulations are not in force, hardy plants will by virtue of their value come to the front.—E. M.

SMILAX ARGYREA.

THERE are several species of the genus *Smilax*, but they have not been considered of sufficient beauty to merit extensive cultivation,

DISQUALIFIED COLLECTION OF FRUIT AT TRENTHAM SHOW.

IN your report of the above Show you are good enough to refer to the collection of fruit I exhibited, and which was disqualified because it contained two Pine Apples. I have no desire to dispute the interpretation your representative has given to the words used in the schedule, but in justice to myself I beg to be allowed to show that the Judges had no grounds whatever for the action they took in this matter.

The words of the schedule are, "Collection of fruit, nine dishes, to include two varieties of Grapes, one black and one white, three bunches of each, one Melon, and one Pine." If these terms mean anything they mean that in the absence of any stipulation to the contrary (and there is none in the schedule) a competitor after staging the stipulated four



FIG. 15.—SMILAX ARGYREA.

and consequently they are not very frequently met with. A similar estimate can hardly be formed of the species exhibited by L'Horticulture Internationale (Messrs. Linden) Parc Leopold, Brussels, at the last Temple Show of the Royal Horticultural Society under the name of *S. argyrea*, and which is represented by fig. 15. The attractive marking of the leaves invests it with considerable beauty. The groundwork is silvery grey marbled with heavy deep green blotches, the two colours producing a beautiful contrast, as the engraving will show. The stems are slender and armed with sharp spines. The leaves are alternate, narrow, pointed, and lanceolate. The species is said to have been introduced from Peru. A first-class certificate was awarded to it.

dishes is at liberty to make up the other five dishes to complete the collection with whatever kind of fruit he may think proper to use; in fact, there is no rule to prevent his making them all of one kind. In the following class—that for collection of fruit, six varieties—it is distinctly stated these are "not to include more than two varieties of Grapes," therefore the words "not to include more than" being kept out of the nine-dish collection, it is reasonable for an exhibitor to infer that he is not confined to one Melon and one Pine only.

In connection with this question I may state that similar words occur in the Crystal Palace schedule to those used in the Trentham schedule—viz., "Two Pines, two Melons, two dishes Peaches, two of Nectarines, two of Plums are required." At the Palace Autumn Show of 1886 I was a competitor in this class, and was awarded second prize, and amongst other fruits in the collection had three Melons (see report

of the Show in the *Journal of Horticulture* for September 9th, 1886, page 229). So far as I know not one word was uttered, either by the horticultural press, judges, or competitors about disqualifying this exhibit. Other cases might be quoted, but in this ambiguously worded schedule the judges had no justification for their high-handed proceedings.—J. MCINDOE, *Hatton Hall Gardens, Guisborough.*

[According to our correspondent's reading of the schedule he need not have staged anything but Grapes, Pines, and Melons, provided he had made up nine dishes of these, and we shall be very much surprised if that was the intention of the committee. At the same time conditions should be framed that cannot be misinterpreted. In our opinion the judges were right at Trentham, whatever mistakes may have been passed elsewhere.]

HORTICULTURAL SHOWS.

NEW BRIGHTON.—JULY 23RD.

THIS was a Rose Show held on the date named in the grounds of Dr. Bell, J.P., and as the day was fine the Hospital (in aid of whose funds the Show was held) will benefit considerably. There was only a moderate number of exhibitors, owing to the Manchester and other Shows falling on the same day, but some very good Roses were shown.

The nurserymen's first prize was taken by Messrs. Dickson (Limited), Chester, with one of the best exhibits they have made this season. The first prize for twenty-four blooms was won by the Rev. Lionel Garnett of Christleton, carrying with it the National Rose Society's gold medal. Mr. W. Stubbs of Nantwich was first for eighteen, and T. Raffles Bulley, Esq., for twelve blooms. Dr. Bell was first for six light coloured with very fine blooms of Her Majesty, and the Rev. L. Garnett for six dark with Alfred Colomb. There was more competition for the local prize with a bronze medal, which was won by Anthony Smith, Esq.

The success of the Show was assisted by a lawn tennis tournament, and by an excellent display of hardy perennials. In the latter an increased interest is taken, and they give variety to what is felt by many as a drawback in Rose Shows—that is, to the monotony of long unbroken lines of Roses—however brilliant individually. The first prizes for twenty-four and twelve varieties were taken by T. Raffles Bulley, Esq., and W. Holland, Esq.

WELLS.—JULY 27TH.

ONCE more a summer Show has been held in the neighbourhood of Wells, and this time in the grounds connected with Sharcombe, the residence of J. F. Hall, Esq. A better site could not well be found for a flower show, the visitors having the privilege of roaming at will over the beautiful grounds, park, and conservatories.

Cut Roses were a great feature in the display, these being more numerous and of much better quality than are often seen at local shows. The first prize for twenty-four was well won by Messrs. Cooling & Sons, Bath, who had Camille Bernardin, Dupuy Jamain, Jean Lilivere, Queen of Queens, Harrison Weir, Mrs. J. Laing, Le Havre, Duchesse de Morny, Marie Margot, C. Darwin, Merveille de Lyon, Prince Arthur, Marie Baumann, A. K. Williams, Madame Joseph Desbois, Star of Waltham, Lady Sheffield, Leopold I., Denmark, Earl of Dufferin, Lucie Corbic, and Suzanne Marie Rodocanachi, all in excellent condition. Messrs. Keynes, Williams & Co., Salisbury, also exhibited fine blooms, but by mistake included three Teas. They were awarded an extra second prize, and a second prize went to Dr. Budd, Bath, who also staged very fine Roses. In the amateurs' class for twelve varieties, distinct, Dr. Budd was easily first, having fairly good blooms of Alfred Colomb, Duchesse de Morny, Charles Lefebvre, Eugénie Verdier, Queen of Queens, Louis Van Houtte, Clemence Joigneaux, Duke of Wellington, Marie Margot, Baroness Rothschild, Comte Raimbaud, and Merveille de Lyon. Mr. Wootton, gardener to J. M. Spencer, Esq., was second. Good prizes were offered for baskets of Roses, the first prize going to the Hon. Miss B. G. Sugden, the second to the Hon. Miss F. Sugden, and the third to Mr. J. B. Payne, gardener to the Lord Bishop of Bath and Wells, the two former especially having very light and attractive arrangements.

Cut flowers of tuberous Begonias were also extensively shown, and were of more than ordinary merit. Particularly good was the first prize stand of eighteen double varieties, distinct, shown by Mr. B. R. Davis, Yeovil. Some of the best of these were La France, Salmon King, Hamlet, Mrs. Cornwallis West, Madame Rocher, F. F. Fox, Albert Crousse, Major Hope, Rubens, and Beauty of Somerset. The second prize went to Mr. E. Brookes, other exhibitors also showing creditably, but were much overweighted by Mr. Davis' grand flowers.

Among the prizewinners with Ferns and other plants were Messrs. Wilkinson, gardener to C. C. Tudway, Esq., J. B. Payne, F. Clarke and J. F. Mould, Pewsey. Mr. Payne was first for black Grapes and Mr. Wilkinson second, the last named being first with white Grapes and Mr. Trevilian, gardener to J. Allen, Esq., second. A very good fruit of a seedling from Hero of Lockinge gained Mr. Payne the first prize in the Melon class, Mr. Stokes, gardener to D. McLean, Esq., being second; several other good fruits being shown. Strawberries, Cucumbers, Tomatoes and collections of vegetables were fairly well shown.

From Messrs. Veitch & Sons, Exeter, came a bank of choice flowering plants, several boxes of Alpine plants, stands of Roses, herbaceous flowers, and hardy foliage, a very attractive display being made. Messrs. Cooling & Son staged a grand box of Rose Alfred Colomb and other boxes of mixed Roses, as well as a fine lot of cut herbaceous flowers. Messrs. Keynes, Williams & Co. also had several boxes of good Roses, and near at hand was a fine exhibit of cut Begonias both double and single flowering in good variety, numbers of neat little Ferns, Palms

and other fine-foliaged plants showing these off capitally. Messrs. Browne and Son, Wells, staged hardy fruit in excellent variety and style.

HAYWARD'S HEATH.—JULY 27TH.

MR. PANNETT once more placed his beautiful meadow in South Road at the disposal of the Committee on the occasion of their fourth annual Show. The weather was brilliant throughout, and a large company was present during the afternoon and evening. The entries were not quite so numerous as last year, which may be accounted for in the fact that the Society got into financial difficulties, and in consequence wisely made some reduction in their prizes. There was unfortunately a falling-off in the number of miscellaneous groups, the two R.H. Society's medals awarded in this class for the first time not having had a stimulating effect. Mr. S. Horscroft, gardener to Mr. Potter, Hapstead House, Ardingly, has the honour of carrying off the silver medal with a very fair group, in which well-coloured Crotons was the best feature. The bronze medal was awarded to Mr. J. Sands, gardener to T. Bannister, Esq., Hayward's Heath. Mr. A. Scutt, gardener to Mrs. Jenkins, Burgess Hill, and Mr. G. F. Wickham, gardener to Mr. Humphry, Keymer, were first and second for the best group of foliage plants. Mr. A. Stamp, gardener to Mr. W. Knight, Hayward's Heath, was first for four stove and greenhouse plants; and Mr. G. F. Wickham had the best four foliage plants. Undoubtedly the brightest and best contested classes were those for Gloxinias and Begonias, Mr. F. Baker, gardener to Mr. Brady, Burgess Hill, being successful in both classes; Mr. G. F. Wickham won first prizes for Ferns, Fuchsias, and a specimen foliage plant.

There was a fine display of hardy herbaceous cut flowers in the three classes, Mr. W. Manton, gardener to Mrs. Clifford Borrer, Bolney, taking first in all three. Mr. J. Mitchell, gardener to Major Moberley, Cuckfield, was first for Cactus and Show Dahlias, also Asters, all very good. Mr. G. Jupp, gardener to F. Campbell, Esq., Brantridge, Belcombe, had the best twelve Roses. There was good competition in the ladies' class for a basket of flowers, Mrs. A. Alwin, Miss Vincent, and Mrs. Brockway coming in the order named with three very pretty baskets. Mrs. Alwin was also placed first with her dinner table centrepiece.

With the exception of the classes for black Grapes and Melons, the entries of fruit were rather short, but of fair quality; small fruit very good. Mr. R. Inglis, gardener to Mrs. Cunliffe-Lister, Borde Hill, was placed first for black Grapes, Mr. J. W. Long having a similar award for good Muscats, the same exhibitor being first for Melons. Other successful exhibitors were Messrs. G. Jupp, J. Mitchell, G. F. Wickham, W. Upton, H. Brading, gardener to Mr. Woods, Wivelsfield (Tomatoes very fine), J. Lands, and J. Lingley.

There were numerous collections of vegetables, and in the larger classes some excellent exhibits. Mr. J. Mitchell had the honour of defeating the local champion (Mr. Mentons) in both the Society's class for nine dishes, and the prizes given by Messrs. Sutton & Sons. Mr. F. Godby won Messrs. Cheal's prize, and S. Horscroft had Messrs. Wood & Sons', while Mr. J. Harris, gardener to C. W. Hudson, Esq., staged the best collection for Messrs. Carters' prizes. When so many special prizes are offered it would be advisable in future for the Society to offer prizes for single dishes of vegetables.

Several exhibits not for competition made an imposing display. Conspicuous amongst these was a fine group of plants staged by Messrs. Peed & Sons. An artistically arranged group of foliage plants, Begonias being largely used, also wreaths and crosses on black velvet, the whole having a chaste appearance, were shown by Mr. Ellis Turner, florist, Hayward's Heath. Mr. W. Knight, Hailsham, and Messrs. Wood & Sons had Roses, &c., and Messrs. Balchin & Sons had a small group of plants. The amateur and cottagers' classes were scarcely so well filled as on former occasions, but on the whole was a creditable show. Much credit is due to Mr. A. R. Pannett and Mr. C. Clarke (Chairman and Vice-Chairman) in bringing the Society through its financial difficulties, and their new Secretary (Mr. A. Tidey) has energy, method, and business capacity enough to insure success in the future.

HESSLE AND HOWDENSHERE.—JULY 27TH AND 28TH.

HESSLE is a pleasantly situated village near Hull, and the home of the Hesse Pear. The Society is a new one, and the first Show was held in the charming grounds of Tranby Lodge, by kind permission of John Sherburn, Esq., J.P. It was an excellent representative display, a really good beginning, and the Society is probably destined to attain a strong position in the district. It is in the hands of the right men as managers, and it is hoped they will receive generous support. In view of the large number of classes little more can be done than to record the winners of the several prizes in the chief classes.

Class I, for a group of plants arranged in a space of 100 square feet, effective and artistic arrangement being considered the chief point of merit. First prize, silver cup value £5 and cash prize £5. James Reckitt, Esq., Swanland Manor, Brough (gardener, Mr. George Wilson), won the premier position with a group of grand plants, but rather too heavy. Second, Arthur Wilson, Esq., Tranby Croft (gardener, Mr. J. P. Leadbetter), who had a splendidly arranged centre, a free cone of Asparagus dumosus brightened with Streptosolons and Disas, relieved with Tuberoses. The sides were rather too light and the margin weak of this group. The third prize was adjudged to Messrs. R. Simpson and Son, Selby, and fourth to R. Falconer Jameson, Esq., F.R.H.S., Hesse (gardener, Mr. John Bridle), with little to choose between them. Mr. Jameson's plants were in excellent condition, but too many were employed in the group. With a smaller group 75 square feet Benjamin Whitaker, Esq., Cliff House, Hesse (gardener, Mr. George Jarvie), was

first, and W. Robinson King, Esq., North Ferriby (gardener, Mr. W. H. Hotham), second; the prize group was cheerful with flowers, the second neat with Ferns and Crotons. F. S. Grotrian, Esq., Hessle, exhibited an effective group of plants, not for competition. Six stove and greenhouse plants, not less than three in flower.—First, Arthur Wilson, Esq., who had very large Palms, also one of the grandest Hydrangeas that it was possible to grow in a flower pot; second, James Reckitt, Esq., who staged a splendid Pritchardia robusta. Mr. John Sunley, Monk Fryston, Milford Junction, was first with three plants, and B. Whitaker, Esq., second. The prizes for three foliage plants were secured by Mr. A. Wilson and Mr. R. Falconer Jameson respectively. Mr. Arthur Wilson had the best six Ferns, Tuberous Begonias, and Caladiums; Mr. Jameson being first with three Caladiums. A large display of Mignonette in pots was shown by the same gentleman, not for competition.

Roses were well represented and greatly admired. In the class for twenty-four blooms Mr. J. Mallender, gardener to Mrs. Mellish, Hodsock Priory, Notts, outdistanced all competitors with good well-arranged blooms of the following varieties:—Her Majesty, Marie Rady, Margaret Dixon, Mrs. John Laing, Ulrich Brunner, Lyonnaise, Duc de Rohan, A. K. Williams, François Michelin, Madame Victor Verdier, Captain Christy, Duke of Edinburgh, Suzanne Marie Rodocanachi, Marie Baumann, Madame Cusin, Emily Laxton, Catherine Mermet, Hippolyte Jamain, Madame de Watteville, Le Havre, and Madame Angèle Jacquier. Second, Mr. Arthur Wilson. Third, Mr. W. R. King. The prizes in the class for twelve Roses were won by J. E. Wade, Esq., J.P.; Rev. Canon Paget, Welton; and Mr. B. Whitaker in order named. J. Sherburn, Esq., had the best six Carnations; Mr. G. Cottam, the best epergne for table decoration; and Messrs. Perkins & Sons, Coventry, the best bouquet.

Fruit was not extensively, but very creditably exhibited. In collection of six varieties, first, J. E. Wade, Esq., J.P.; Brantinghamthorpe, Brough (gardener, Mr. Wm. Curtis); second, Sir Talbot Constable, Bart., Ferriby (gardener, Mr. J. Williamson); third, B. Whitaker, Esq. In the class for nine varieties, first, Earl of Harrington, Elvaston Castle (gardener, Mr. J. H. Goodacre), with grand Black Hamburg Grapes, the bunches in faultless condition, carrying a splendid bloom; a fine Queen Pine, Negro Largo Figs, Circassian Cherries, Elruge Nectarines, Foster's Seedling Grapes, and a splendid Countess Melon. Second, Jas. Reckitt, Esq., Swanland Manor. With two bunches of black and two of white Grapes, Mr. Goodacre was first; second, J. E. Wade, Esq. A dish of six Peaches, first, J. E. Wade, Esq.; second, H. W. Meggitt, Esq., Kingston Lodge, Hessle (gardener, Mr. Wm. Hogg); third, Mr. Goodacre. Six Nectarines, first, Mr. Goodacre with Elruge; second, J. E. Wade, Esq.; third, Sir Constable, Bart. One Melon, first, Arthur Wilson, Esq.; second, Earl of Harrington. Strawberries, first, R. Falconer Jameson, Esq., with a splendid dish; second, J. Sherburn, Esq. (gardener, Mr. J. B. Hardy).

VEGETABLES.—These were very good. Collection of vegetables in twelve distinct varieties.—First, R. Falconer Jameson, Esq. (gardener, Mr. Jno. Bridle), Cucumbers and Mushrooms excellent. Second, Arthur Wilson, Esq. Third, Jas. Reckitt, Esq. In the collection of vegetables in six varieties Mr. Falconer Jameson was again first. Collection of Potatoes in six varieties.—First, Jas. Reckitt, Esq. Second, W. Robinson King, Esq. Tomatoes, twelve fruits.—First, Mr. J. W. Backhouse, Beverley. Second, R. W. Meggitt, Esq., Kingston Lodge, Hessle. Cucumbers.—First, R. Falconer Jameson, Esq., with models of culture. Second, Mr. G. Cottam, jun. Third, Mr. J. W. Backhouse.

MISCELLANEOUS.—A very interesting exhibit of garden Roses by Mrs. Mellish, Hodsock Priory (gardener, Mr. J. Mallender), attracted much attention; the varieties were W. A. Richardson, Lucida plena, Ophirie, Fellenberg, Duarte de Oliveira (a charming Rose), Vivid, Reine Olga de Wurtemberg, Celeste, York and Lancaster (true), Crimson Provence, Rosa Mundi, and others (award of merit). Mr. George Swaile, The Nurseries, Beverley, exhibited a splendid stand of Teas, also a stand of his new Rose Mrs. Arthur Wilson, H.P., a little darker than Mrs. John Laing, and likely to be heard of again (certificate). Messrs. F. Sander and Co. of London had two charming tables of Orchids (silver medal). Mr. G. Cottam, jun., had an interesting collection of Ferns, Liliums, and other plants. Messrs. Charlesworth, Shuttleworth & Co., Heaton, Bradford, had a superb exhibit of Orchids, Palms, and Ferns (silver medal). Messrs. Dixon, the Yorkshire Seed Establishment, Hull, had a charming group of table plants, Crotons, Palms, Orchid, Bouvardias, and choice shrubs (silver medal). Messrs. W. Edwards & Sons, new Edwardiane floral decorations and Ferns (award of merit). Messrs. Cannell & Sons had a charming exhibit of double Begonias, which astonished the visitors (silver medal). Messrs. Clibran & Son, Altrincham, superior cut flowers (award of merit).

Mr. Martin, seedsman, Hull, had a large display of garden sundries. William Cutbush & Sons, London, had decorative plants for table and hardy flowers (first-class certificate). Messrs. Richardson & Co., Darlington, had frames of houses, blinds, boilers. Mr. A. P. Johnson, useful amateurs' greenhouses and frames. The British Metal Expansion Company had fencing, tree guards, latticework, &c., of an excellent character; and Messrs. Caesar, Knutsford, well-made rustic work. The above, with various other exhibits of articles pertaining to gardens, made an imposing display. Notwithstanding counter attractions there was a good attendance of visitors, and although the outlay must have been considerable there appeared promise of a financial success.

PRESCOT.—JULY 28TH.

ON Thursday last the eighth annual Exhibition was opened in Knowsley Park (kindly lent for the occasion by Lord Derby). The Show in many respects was above that of former years, but in the plant classes there was

a slight falling off. The collections of fruit were above the average, and vegetables throughout excellent. In the afternoon a large number of ladies and gentlemen resident in the neighbourhood paid a visit to the Show, and seemed very pleased with the arrangements carried out by Messrs. Learmont and Thompson. The Judges were Messrs. Tunnington, Carling, Stoney, and Smith.

For six stove and greenhouse plants Mr. Edward Blythian, gardener to Mrs. Baxter, Rainhill, took first honours, having a grandly flowered Statice Holfordi, Plumbago capensis alba, and Abutilon Boule de Nègre. The second prize was awarded to Mr. R. Pinnington, gardener to Mrs. Banner, Blacklow House, Roby, who had a good Chamærops Fortunei, Croton Queen Victoria, and Statice profusa. For four stove and greenhouse plants in flower Mr. Blythian was again first, having again a capital Statice Holfordi and Plumbago capensis. The same exhibitor took first honours for four Fuchsias. Six stove and greenhouse brought out only Mr. Pinnington, who had a fine Adiantum farleyense, Dicksonia antarctica, Cibotium Schiedei, and Davallia bullata. Mr. Pinnington won in the class for six Gloxinias. Mr. James Humphreys, gardener to E. S. Eccles, Esq., The Orchard, Huyton, took second prize for six single and first for double Begonias. Cockscombs were of good quality, the first prize being secured by Mr. W. Lyon, gardener to A. Mackenzie Smith, Esq., with well-flowered specimens. Mr. J. Bounds, gardener to A. L. Jones, Esq., Aigburth, was first with a group of plants 60 square feet, arranged for effect, Mr. H. McFall closely following.

Roses, considering the season, were in good condition. For eighteen cut Roses Mr. John Beesley, Prescott, was first with Captain Christy, Paul Neyron, Marquise de Castellane, Etienne Levet, Merveille de Lyon, La France, Général Jacqueminot, Victor Verdier, Alfred Colomb, Queen of Queens, Baroness Rothschild, Fisher Holmes, Madame Gabriel Luizet, Marie Baumann, and several not known. The second honours were awarded to Mr. W. Allan, gardener to C. S. Musson, Esq., Huyton. For twelve blooms Mr. Wharton, gardener to J. Royston, Esq., Huyton, was first with an excellent selection. The prize for six went to Mr. T. Eaton, gardener to J. Parrington, Esq., also with beautiful blooms. Mr. Eaton secured the prize for twelve varieties of cut flowers with bright and fresh examples.

Six collections of four dishes of fruit were staged. Mr. W. Oldham, gardener to Joseph Beecham, Esq., Ewanville, Huyton, was an easy first, his Duke of Buccleuch and Black Hamburg Grapes carrying great weight. The other dishes were Royal Sèvre Peach and Blenheim Hybrid Melon. Second, Mr. T. Eaton, with well-coloured Grapes and Nectarines. Third, Mr. R. Pinnington, with good dishes, but Grapes not quite finished. For two bunches of Black Hamburg Mr. Oldham came in first, but there was little difference between his and the second, awarded to Mr. J. Barker, gardener to J. W. Raynes, Esq., Rock Ferry. Mr. Barker won with two perfect bunches of Madresfield Court. Mr. Blythian was second with beautiful Black Alicante, and first with Buckland Sweetwater. The prize for Muscats went to Mr. H. Ewbank, gardener to J. S. Heaps, Esq. Mr. Oldham was second for any other white. Messrs. Gray, Case, Barker, and Gibbs won with Cherries, Black, Red, and White Currants; Raspberries, Strawberries, and Apples, and Gooseberries being best shown by Messrs. Humphreys, Pinnington, Gray, and Bounds; Peaches and Nectarines by Messrs. Ewbank and Barker.

VEGETABLES.—These are always shown in splendid condition. In the collection for twelve varieties Mr. J. Pownall, Prescott, had a fine collection, the best being Dwarf Mammoth Cauliflower, Early Gem Carrot, White Lisbon Onion, Lyon Leek, and beautiful Cucumbers. Mr. Isaac Case had also a grand exhibit, the best being Challenge Celery, Ailsa Craig Onion, and Chancellor Potatoes. The prizes for Potatoes, Cucumbers, Peas, Beans, Cauliflowers, Onions, Turnips, Carrots, Marrows went to Messrs. Fleming, Lockett, McFall, R. Pinnington, J. Lyon, J. Cook, Sharkey, and Barker; whilst the prize for three dishes of Tomatoes was awarded to Mr. R. Pinnington. Second, Mr. N. Mercer. The cottagers' produce was excellent. To Mr. John Young, the hard-working President, Mr. Robert Rigby, the indefatigable Secretary, and the excellent Committee the highest praise must be given for the thorough manner in which the Show was conducted.—R. P. R.

WARWICK.—JULY 28TH.

THIS Show was held on the date named in the grounds of Mr. G. Nelson. The number and high quality of the exhibits staged was fully maintained. An open class was this year provided for cut Roses, which brought out some fine blooms, though not a large number of exhibits. In the class for twenty-four Hybrid Perpetuals, Messrs. Perkins of Coventry were in fine form. Their best blooms were Her Majesty (grand), Mrs. J. Laing, Comte de Raimbaud, Suzanne Marie Rodocanachi, A. K. Williams, Beauty of Waltham, and Madame Eugénie Verdier. This stand was deservedly placed first; Mr. Prince of Oxford being a good second. For twelve Teas Mr. Prince turned the tables on his opponent; he staged beautiful blooms of Madame Hoste, Ernest Metz, S. A. Prince, Princess of Wales, Madame Lambard, Comtesse de Nadaillac, and Marie Van Houtte.

Several trade firms put up good groups of plants, cut blooms of herbaceous plants and Roses. Mr. H. Wingrove, gardener to G. H. Nelson, Esq., Rousham Park, staged (not for competition) a highly meritorious collection of fruit. Lockie's Perfection Melon, Muscat of Alexandria, and Grosse Mignonne Peaches were all good, but the three beautiful bunches of Black Hamburg Grapes are worthy of special mention. The bunches were of good size and compact shape, every berry being perfectly coloured, and were good enough to hold their

own in any competition. A certificate of merit was awarded by the Judges.

The arrangements were efficiently carried out by Councillor Lloyd-Evans, the Hon. Secretary, who has for many years taken a warm interest in the Society.

SOUTHAMPTON.—JULY 30TH AND AUGUST 1ST.

THE annual summer Exhibition was held as usual in the Society's grounds, Westwood Park, and was a credit to all concerned. Mr. Fudge was quite to the front with the secretarial duties, and the Committee deserve all thanks for their endeavours to make the Show what it was—a success.

PLANTS.—The principal class was that for ten stove or greenhouse specimens, five in bloom and five foliage. Mr. F. Jennings, gardener to W. Garton, Esq., Roselands, Woolston, was easily first with handsome specimens, the most noteworthy being *Lantana borbonica*, *Croton Warreni*, richly coloured; *Kentia Fosteriana*, *Croton angustifolium* in superb condition; *Allamandas Hendersoni* and *nobilis*, and *Statice profusa*. Mr. E. Wills, florist, Winchester Road, Shirley, was second; and Mr. Blandford, gardener to Mrs. Haselfoot, Moorhill, Bitterne, third. The class for six specimens made a good display. Mr. J. Amys, gardener to the Hon. Mrs. Elliot Yorke, Hamble Cliff, Netley, won with large, healthy specimens of *Lantana borbonica*, *Cycas revoluta*, *Kentia Fosteriana*, *Ixora Prince of Orange*, and a huge *Allamanda Hendersoni*. Mr. Wills was second, and Mr. W. Peel, gardener to Miss Todd, Sidford Lodge, Shirley, third. The following class was devoted to gardeners only, and was for six miscellaneous plants, half to be in bloom. Mr. Wilkins, gardener to Lady Theodora Guest, Inwood House, Henstridge, Blandford, was first, Mr. Peel being second. The former had a *Bougainvillea glabra* in excellent condition. Mr. Jennings won the first prize for a specimen foliage plant with a huge and highly coloured *Croton Disraeli*, Mr. J. Evans, gardener to Lady Ashburton, Melchet Court, Romsey, following with *Cycas revoluta*. Stove or greenhouse Ferns were magnificent. For six Mr. Jennings was distinctly ahead with extremely healthy, well grown plants of *Nephrolepis davallioides furcans*, *Adiantum elegans*, *Microlepia hirta cristata*, *Adiantum cardiochleana* and *A. fragrantissima*. Mr. Peel was second, and Mr. Amys third. Hardy Ferns were good. Mr. Blandford won for six, Mr. Busby, gardener to F. Willan, Esq., Thornhill Park, Bitterne, being second. Mr. T. Hall, gardener to S. Montagu, Esq., M.P., South Stoneham House, was first with six *Fuchsias*, and Mr. Blandford staged the best single Zonal *Pelargoniums*. Mr. Peel won with six *Lycopodiums*, Mr. Wills being second. Mr. Hall won with double *Begonias*, Mr. Wilkins doing likewise with single varieties, medium-sized plants with large blooms. Table plants were also good. Mr. Grigg, gardener to — Hargreaves, Esq., Cuffnells, Lyndhurst, was first with suitable specimens. Mr. Budd, gardener to F. Dalgety, Esq., Lockerby Hall, Romsey, staged the best *Cockscombs*, and Mr. E. Carr, gardener to W. A. Gillett, Esq., Fair Oak Lodge, Bishopstoke, had the best eight *Gloxinias*. Prizes were offered for a collection of Orchids, arranged with small Ferns or Grasses, which gave a pleasing effect. Mr. Blandford was first with an interesting display, and Mr. E. Carr second. Mr. Budd staged *Cattleya Sanderiana*, rich in colour, for the best single Orchid, Mr. Wills being second.

Groups for effect were a feature of the Show, filling one side of the centre of a large tent. That for 130 square feet was the leading class. Mr. Wilkins succeeded in beating his rivals, Mr. Wills and Mr. Carr. In the first prize group the base was flat and composed of Maidenhair Ferns, from which arose well-grown suitable sized Palms, Crotons, *Francoa ramosa*, *Streptocarpus*, neatly margined with *Caladium argyrites*. Mr. Wills was second with a creditable arrangement, Mr. Carr being third. In a group of 90 square feet Mr. Peel was an easy winner, with a somewhat heavy arrangement. Mr. Hall followed.

Cut flowers were staged in large numbers and of capital quality. Roses made a good display, the blooms being especially bright in colour, and of good form if not large. For twenty-four blooms, distinct, Messrs. Keynes, Williams & Co., Salisbury, easily won, the most noteworthy being Duke of Edinburgh, Marie Baumann, Etienne Levet, Ella Gordon, Duc d'Orleans, Lady Mary Fitzwilliam, Ulrich Brunner, and Prosper Laugier. Mr. W. Taylor, Osborne Nursery, Hampton, Middlesex, was second. For twelve blooms, Dr. D. Seaton, Rutland Lodge, Bitterne, was first, Mr. Hall second. Stove and greenhouse blooms were well staged by Messrs. Budd and Evans, the prizes going in the order named. Hardy herbaceous blooms were excellently staged in the class for twelve varieties. Mr. M. Prichard, Southborne Nursery, Christchurch, was first; Mr. Ladhams, Shirley, second, and Mr. Evans third. Carnations were well shown by Mr. E. C. Goble, nurseryman, Ryde, Mr. Rebbeck being second. The last-named took the premier award for Picotees. Dahlias were finely staged by Messrs. Keynes in the classes for twelve Show, and the same number of Pompons.

Table decorations and bouquets were decided features of the Show. For the most elegantly dressed table 8 feet by 4 feet, Mr. Chard, Brunswick Nursery, Stoke Newington, was an easy winner with a tasteful arrangement in which hardy flowers were conspicuous. Three arches, about 2 feet wide and a yard high as the main feature, were arranged lightly with flowers, including yellow *Marguerites*.

FRUIT.—This was admirably represented, the competition being keen and the exhibits numerous. Five competed in the collection of six distinct varieties (Pines excluded). Mr. Inglefield, gardener to Sir J. Kelk, Bart., Tedworth, Marlborough, was first, staging Black Hamburgh and Muscat of Alexandria Grapes, the former especially well

coloured, though a trifle small in berry; Tedworth Favourite Melon, large and highly coloured; Walburton Admirable Peaches, Elruge Nectarine and Brown Turkey Figs. Mr. Evans was second; Victoria Hamburgh in this collection was very good indeed. Mr. Hall was third. Grapes were numerous shown. For three bunches, black, seven competed. Mr. N. Molyneux, gardener to J. C. Garnier, Esq., Rooksbury Park, Wickham, Fareham, secured leading honours with shapely bunches, having good berries and fair finish. Mr. Hall following with Madresfield Court, rather uneven in the size of berry, but good in every other respect. Mr. Inglefield third. For a similar number of bunches any white variety, Mr. N. Molyneux again won with Muscat of Alexandria in very good condition. Mr. Ward, gardener to Earl Radnor, Longford Castle, Salisbury, second with Buckland Sweetwater; Mr. Inglefield third. In the dual bunch class Mr. J. W. Taylor, gardener to T. P. Elphinstone, Esq., Cranemore Lodge, Christchurch, won with a small but perfect Black Hamburgh; Mr. Busby second. Mr. Evans in a similar class for any white variety won with Muscat of Alexandria; Mr. Budd following. Prizes were offered for a single bunch of black and white; here Mr. N. Molyneux followed up his previous success by securing both awards, also the silver medal for Muscat of Alexandria, as affording the best evidence of cultural skill in the fruit classes. Messrs. Ward and Inglefield were second in these classes in the order named.

Melons were finely shown. The specimen of Hero of Lockinge which won for Mr. Ward the premier award was simply magnificent in flavour. Mr. Evans was second. In the scarlet flesh class Mr. A. Maxim, gardener to the Hon. Miss Shaw Lefevre, Heckfield, Winchfield, won with Suttons' Al, also good. Mr. Evans was again second. Mr. N. Molyneux secured the leading award for a single dish of Peaches, amongst nine others, with medium sized but highly coloured fruits of Royal George. Mr. Amys, with Noblesse, second; Mr. Wilkins third. Elruge Nectarine, highly coloured, won for Mr. Inglefield the premier award in the single dish class; Mr. Budd following with Violette Hâtive. Hardy fruit in six dishes was numerous staged. Mr. R. West, gardener to J. R. Wigram, Esq., Northlands, Salisbury, easily won. Extremely fine Gooseberries and Strawberries were staged in this exhibit. Mr. Budd was second.

VEGETABLES.—These have never been shown better here than on the present occasion. Any show that secure as competitors men like Messrs. Pope, Wilkins, Inglefield, and Waite are certain of a good display. For nine distinct varieties six competed. Mr. Pope, gardener to the Earl of Carnarvon, Highclere Castle, Newbury, won the premier position with a capital collection. Midsummer Potatoes, Eclipse Cauliflowers, Duchess Pea, Perfection Tomato, Matchless Cucumber, and Anglo-Spanish Onion were the most noteworthy dishes. Mr. Waite, gardener to Col. the Hon. W. P. Talbot, Glenhurst, Esher, second; Mr. Wilkins third. Mr. Waite turned the tables in the class for six varieties (the prizes offered by Messrs. Sutton & Sons) by taking the premier award with vegetables of high-class quality, Golden Rocca Onion, Satisfaction Pea, and Perfection Tomatoes being the most noteworthy; Messrs. Wilkins and Pope following in the order named. For Messrs. Webb's prizes Messrs. Pope, Wilkins, and Waite secured the awards. Potatoes were very good. For eight dishes—four of round and the remainder kidney—Mr. West won; Mr. Inglefield second. The best dish of any round variety was one of Suttons' Seedling from Mr. Waite, and one of Windsor Castle from Mr. Wilkins in the kidney class, both possessing high merit. Cucumbers were well shown by Mr. Busby, Carrots by Mr. Evans, and Peas by Mr. N. Molyneux.

First-class certificates were awarded to Mr. E. Wills for *Bougainvillea glabra*, "Wills' variety," which has smaller flowers than the type but of a distinct purple shade of colour, but the feature claimed for this it that it flowers so freely in small pots; the one staged was in a 48-sized pot and carried eight spikes of bloom. To Mr. Chard for a floral arch; to Mr. F. Sander for *Anthurium Sanderianum* with extra stout flower spathes, one measuring 9 inches by 7 inches and of an intensely brilliant colour. A certificate of merit was awarded to Mr. B. Ladhams for a collection of hardy herbaceous cut flowers. Mr. W. H. Rogers, Red Lodge Nurseries, sent a large collection of ornamental shrubs, and Mr. C. Golding sent well-flowered seedling *Begonias*.

INTERNATIONAL HORTICULTURAL EXHIBITION.

AUGUST 1ST, 2ND, AND 3RD.

THE special three-days Show of Carnations, Picotees, and cottage garden produce, which took place at the International Horticultural Exhibition, Earl's Court, on the above dates was not so good as it ought to have been, considering that such a liberal schedule had been provided. In the open classes some fine Carnations were shown, but the entries were few, and the competition not particularly keen. Fruit, on the whole, was good, but, with the exception of a small section open to market growers, not very plentiful. Vegetables were fairly good in the cottagers' classes, as also were pot plants and annuals, though many of the latter presented a withered appearance long ere the first day was over. The following notes embody the names of the prizewinners in the leading classes.

In the principal open class for Carnations Mr. C. Turner, Slough, was first for twenty-four blooms of not less than twelve varieties. This stand comprised fresh and bright flowers. The varieties shown were Dr. Hogg, Chas. Henwood, Duke of Grafton, Lady Mary Currie, Oscar Wilfred, Dandy, Jessica, Miss Constance, Mrs. J. W. Jack, Colonel Wyndham, Harmony, John Ball, Mars, Robert Houlgrave, Mrs. Barlow, Brutus, Mr. Sutton, and Mrs. H. Cannell. Mr. F. Hooper, Bath, was second with less even blooms; and Mr. Wm. Welsford, Clapham, was

awarded an extra prize. For twelve blooms (amateurs) there were but three competitors, the leading award being secured by Mr. James Portbury, gardener to W. N. Froy, Esq., Putney. The best blooms shown were Reynolds Hole, Grant Allen, Elsie, Earl Beaconsfield, Pomeroy, Alice Ayres, Mrs. Watts, Charles I., Dr. Park, and Grandiflora. Mr. H. A. Fitch, Waltham Cross, was next with small blooms; and Mr. W. T. Willway, Clapham, being awarded an extra prize. For six Carnation blooms Mr. W. Hooper, Chippenham, was first, the second prize being secured by Mr. J. Portbury. Mr. T. Fear was third. The yellow grounds were better. Mr. C. Turner, Slough, was first with twenty-four blooms, comprising not less than twelve varieties. The flowers were very fine. The varieties shown were Adela, Edith W. Wynne, Almira, Mrs. Walford, Countess of Jersey, Magnet, Mrs. Henwood, Goldfinch, Nonpareil, Remembrance, Consolation, and seedlings. Mr. F. Hooper, Bath, was awarded second prize for good blooms, there being no other competitor. For twelve yellow grounds there were also but two competitors. Mr. E. C. Goble, Ryde, was first with grand specimens. The varieties in this stand were James Bennett, Lady Jersey, Old Coin, Lady Sutton, Mr. Henwood, Romulus, Lord Rendlesham, and seedlings.

For twenty-four selfs and fancies, twelve varieties, Mr. Turner was first, showing grand blooms. The varieties were Germania, Romulus, Salamander, Marnie Murray, Victory, Lady Mary Currie, Rose Wynne, Mr. W. Clements, Lord Rendlesham, Iona, The Governor, and King of Scarlets. Mr. F. Cooper was again second, and an extra prize was awarded to Mr. W. Welsford. Mr. C. Blick, gardener to M. R. Smith, Esq., Beckenham, was first with twelve selfs and fancies with a stand of magnificent blooms. The varieties were Eudoxia, Niphetos, Madcap, Violet, Dodwell's 617, Mrs. L. Jameson, Lord Rendlesham, Victory, Germania, Alice Ayres, Marnie Murray (good), Romulus, and Salamander. Mr. W. Hooper, Chippenham, was second, and an extra prize was awarded Mr. E. Cowell, gardener to J. Dondin, Esq., Kensal Green.

Picotees were not very numerous, but the blooms shown were very good. Mr. Turner was first in the class for twenty-four blooms. The following varieties were staged:—Princess of Wales, Lady Churchill, Zerlina, Brunette, Adolphus, Mrs. Harford, Thomas William, Favourite, Lady Gordon Cathcart, Nellie, J. B. Bryant, and seedlings. Mr. F. Hooper was again second; Mr. W. Welsford being third. Mr. T. Fear was first with twelve blooms, including Countess of Jersey, Almira, Mrs. Henwood, Prince of Orange, John Smith, Annie Smith, Augusta, Favourite, and Mrs. Payne. Mr. W. T. Willway, Clapham, was second, there being no third. Mr. W. Hooper was first with six blooms, and Mr. J. Portbury second.

Border Carnations, although few in number, were bright, fresh, and attractive. For twelve bunches, shown with their own foliage, Mr. C. Turner was first, showing grand blooms neatly arranged. The varieties were Almira, Bellissima, Lord Rendlesham, Raby Castle, Charles Henwood, Mrs. Muir, Romulus, Victory, Ne Plus Ultra, Lady Mary Currie, Old Coin, and Queen of Bedders. Mr. Blick was second in this class. Mr. Turner was also first for twelve Carnations in pots, which included grand specimens of Rose Wynne, Duke of Sutherland, Mr. W. Clements, Lady Mary Currie, Romulus, Victory, and King of Scarlets. There was no other competitor in this class. For twelve bunches of self coloured Carnations, border varieties, Mr. E. C. Goble, Ryde, was first, Mr. Hooper being second. An extra prize went to Mr. W. H. Divers, Ketton Hall, Stamford. Mr. Turner was first for six selfs, showing Rose Wynne, Salamander, The Governor, King of Scarlets, Mr. W. Clements, and Lady Mary Currie. Mr. Globe was second, and Mr. C. Blick third.

As has been said, fruit was not very extensively shown. In the market growers' section Mr. Featherby, Gillingham, Kent, was first for a basket of black Grapes, showing grand bunches of Gros Maroc. Mr. Le Poidevin, Guernsey, was second with Black Hamburg. For the best packed basket of Grapes Mr. Featherby was first, Mr. F. Le Poidevin being next. The latter, however, was first for the best packed basket of Figs, and also third for Melons. Mr. Featherby had the best packed basket of Tomatoes. For a shallow basket of white Grapes Messrs. Parsons & Bowyaize, of Covent Garden, were first, the next being Mr. G. Featherby. Mr. F. Le Poidevin was awarded the second prize for a collection of English and Channel Islands fruit packed for market.

Among the miscellaneous exhibits, Messrs. J. Laing & Sons, Forest Hill, S.E., had a magnificent group of plants very effectively arranged. A gold medal was awarded this exhibit. The groups comprised Caladiums, Orchids, Begonias, and Palms. Messrs. Laing also exhibited two "not for competition" groups, similarly arranged to the last named. Messrs. E. D. Shuttleworth & Co. staged a group of flowering and foliage plants, for which a silver-gilt medal was awarded. Mr. T. S. Ware, Tottenham, had a collection of Gaillardias and border Carnation blooms, and Messrs. Dobbie & Co., Rothesay, Violas, Marigolds, Sweet Peas, and vegetables, both securing silver medals. Messrs. Wills & Segar had Palms, whilst Messrs. Jarman & Co., Chard, staged an attractive collection of vegetables, thereby securing a silver medal. Messrs. Barr and Sons were awarded a silver-gilt medal for a collection of hardy flowers.

First-class certificates were awarded to Messrs. J. Laing & Sons, Forest Hill, S.E., for Begonia Charmer, Dendrobium Schröderianum, and Bertolonia Madame von Geert. Also to Messrs. Charles Turner, Slough, for Carnations King of Scarlets, Rose Wynne; Picotees Edith M. Wynne and Lady Emily Van de Weyer.

NEMESIA STRUMOSA SUTTONI.

AT the meeting of the Royal Horticultural Society on July 26th Messrs. Sutton & Sons, Reading, exhibited bunches of cut bloom of the above plant, for which the Floral Committee awarded a first-class certificate. It is a half-hardy annual, and the flowers (see fig. 16) are exceedingly pretty. It is characteristic of the plant to produce blooms of different colours, and among them may be found shades of various hues, from a pale lemon yellow to a rich crimson. Messrs. Sutton & Sons inform us that the seed was sent to them from South Africa two or three years ago, and they hope to be able to include it in their list next



FIG. 16.—NEMESIA STRUMOSA SUTTONI.

spring. The seed should be sown in pans or boxes filled with light soil in March or April, and the plants put outdoors in May. They will come into bloom in June, and continue flowering until the end of August.

NATIONAL CARNATION AND PICOTEE SOCIETY.

WE were compelled, owing to circumstances, to curtail the report of the Carnation Show (Southern Section) in our last issue, and we now append the details that were omitted. For single blooms of Carnations the prizes were awarded as follows:—Scarlet bizzarres.—First, Mr. M. Rowan with Robert Houlgrave; second, Mr. C. Turner with Dr. Hogg; third, Mr. Douglas with a seedling; fourth, Mr. J. Keen with a seedling; fifth, Mr. Headland with a seedling. Crimson bizzarres.—First, Mr. F. Hooper with Mrs. Cattley; second, Mr. R. Sydenham with J. S. Headderly; third and fourth, Mr. C. Blick with Phoebe; fifth, Mr. W. H. Headland with a seedling. Pink and purple bizzarres.—First, Mr. J. Keen with Sarah Payne; second and fifth, Mr. F. Nutt with William

Skirving; third, Mr. J. Keen with W. Skirving; fourth, Mr. Douglas with Sarah Payne. Purple flakes.—First, Mr. J. Keen with George Melville; second, Mr. C. Phillips with James Douglas; third, Mr. Rowan with George Melville; fourth, Mr. F. Nutt with the same; fifth, Mr. Douglas with Mrs. Douglas. Scarlet flakes.—First, Mr. Douglas with Matador; second, Mr. R. Sydenham with Henry Cannell; third and fourth, Mr. Rowan with Sportsman; fifth, Mr. Douglas with Alisemond. Rose flakes.—First, Mr. J. Lakin with Sybil; second Mr. C. Turner with Lady Mary Currie; third, Mr. Hooper with Mr. G. Cooling; fourth (no name), with Thalia; fifth, Mr. Blick with Thalia.

The premier Carnation in the Show was a remarkably fine bloom of Dr. Hogg, scarlet bizarre, shown by Mr. C. Turner. The flower was richly coloured.

In the classes for Picotees, single blooms, the following awards were made:—Heavy red edge: first and second, Mr. J. Douglas, with an unnamed seedling. Light red edge: first, Mr. C. Turner, with Thomas William; second, Mr. H. W. Headland with Souvenir of H. Headland. Heavy purple edge: first, Mr. J. Douglas, with Muriel; second, Mr. J. J. Keen, with Amy Robsart. Light purple edge: first, Mr. H. W. Headland, with Pride of Leyton; second, Mr. J. Lakin, with Miss Lakin. Heavy rose edge: first, Mr. Keen, with Mrs. Sharpe; second, Mr. Nutt, with the same; third, Mr. Keen, with Mrs. Sharpe. Light rose edge: first and fourth, Mr. J. Douglas; second, Mr. H. W. Headland; third and fifth, Mr. Keen, all with Liddington's Favourite. Yellow grounds: first, Mr. C. Turner, with Countess of Jersey; second, Mr. Henwood; third, seedling, the name of the exhibitor was not given; fourth, Mr. Nutt, with Almira, and fifth with Agnes Chambers. The premier Picotee, as mentioned in our last issue, was a beautiful bloom of Favourite, light rose edge, in one of Mr. Douglas's stands.

Seedlings were fairly numerous and prizes and certificates of merit were awarded to the following:—Homer, crimson bizarre, from Mr. J. Douglas, a large flower, bright in colour; Atrato, purple flaked (Douglas), remarkable for its deep tint of bright purple; Ganymede (Douglas) heavy red edged Picotee; Melpomene, medium rose edge Picotee, very good; Desdemona (Douglas) light rose edge Picotee, distinct; Eurydice (Douglas) a well-coloured yellow ground; Zeno (Douglas) a medium red-edged Picotee; and Lady Wantage, a large white self of fine quality from Mr. William Badcock, Reading.



CHRYSANTHEMUMS AT SWANMORE PARK.

THERE have been logicians holding the quaint position that he who would breed fat oxen should himself be fat. Without at all contesting or favouring this contention, there can be no doubt whatever but that the gardener who sets up as a critic of Chrysanthemums should know very much that is practical and authoritative concerning them. Mr. Edwin Molyneux is a Chrysanthemum critic, and a somewhat severe as well as distinguished one. He has attained to that high position through the exercise of much patience, industry, and skill, having first become a champion grower and exhibitor, then a distinguished judge, and to this latter function he now adds that of being one of the most capable of critics. I can hardly say of him that, having won for himself the highest honours Chrysanthemum exhibiting offered, he did, Alexander-like, weep that there were no other worlds to conquer, for on the contrary he seems to have been amply, nay, even almost more than satisfied with his honours, and, retiring from active competition, left the exhibition area open for other competitors to, if they will, achieve similar results.

But it would be indeed a tremendous mistake were anyone to assume that, because now no longer a Chrysanthemum competitor, the hero of Swanmore Park was no longer a grower. The reverse is the case. Mr. Molyneux grows more plants than ever, and grows them wonderfully well also. There is one secret of the great success which attended Mr. Molyneux exhibiting a few years since as to which he does not attempt to detract one item of merit. It is, that as Swanmore Park lies some 400 feet above the sea level, and is situate on an open breezy district where the atmosphere is naturally much drier than it is in lower localities, conditions favourable to the production of hard mature summer growth is found, which does not always exist elsewhere, and thus it happens that many varieties are at Swanmore much dwarfer than sometimes is the case; the joints are short, the wood hard and sturdy, and the leafage thick and leathery. But apart from this climatic advantage, there is the undoubted fact remaining that only the closest and keenest watchfulness and observation enable a grower to understand fully the needs or requirements of each variety, for Chrysanthemums are wonderfully varied in that respect, and let the natural advantages of a position be what they may, only the closest attention can discover what treatment each variety may require. In all these matters Mr. Molyneux is a master, hence the value of his criticisms.

I was all the more interested in seeing the Swanmore collection of plants, because I have heard it suggested that one reason why the gardener there had retired from the competition field was owing to some

loss of cultural skill. To show how groundless was the suggestion I would aver that it would be very difficult indeed for any Chrysanthemum grower at the present moment to exhibit superior plants to those now growing at Swanmore. I found first a grand lot of the taller varieties standing on each side of a long garden walk, where they were much sheltered from rough winds by trees and hedges. This walk is about 180 feet long, and on each side standing on boards were about 150 plants. In some cases 10-inch pots were carrying two plants, and remarkably well were they doing in such companionship. Indeed the practice seems to be a specially desirable one. On another path was a large number, perhaps 150 more, and then in an enclosed yard having a very hard ash bottom or floor I found standing in rows, 4 feet apart, all the dwarfer varieties including Pompons. There were in all about 860 plants, for I counted them for my own satisfaction, and whilst all the best older sorts are grown for comparison, so also are there found very many of the best novelties, including some direct from New Zealand. The latter have not been previously grown in this country, and with respect to their merits Mr. Molyneux will doubtless enlighten the readers of the Journal in due time.

In many cases buds had already been taken; in others they were just developing, and perhaps there is no matter after all in relation to the production of fine Chrysanthemum flowers, that is of such importance as is the taking of the buds at the proper moment. Not every grower perhaps adopts the precaution of placing on the soil in the pots and just before the plant stem a piece of potsherd on which the water is poured; this prevents washing out the soil, as is so often the case when watering is done recklessly, and certainly when over 800 plants have to be watered in hot dry weather there is little time for the exercise of much discretion. An occasional pinch of Thomson's manure had already been given to the plants, but stimulants are not applied lavishly, and certainly not with a free hand until the buds have more largely developed. Enough has been said to show that, now more critic than competitor, Mr. Molyneux has at his disposal ample materials for criticism and judgment; and also, that in no sense has his hand lost its cunning. Swanmore Park lies in no one's way. Everyone who visits the place must go there on purpose, hence not so many see the beautiful gardens as wish. I have found few gardens, even far more pretentious, that better repay a visit.—A. DEAN.

ROYAL HORTICULTURAL SOCIETY.

JULY 26TH.

SCIENTIFIC COMMITTEE.—Present: Mr. Morris (in the chair), Mr. McLachlan, Mr. Michael, Prof. Green, Prof. Church, and Rev. G. Henslow, (Hon. Sec.); visitor, Dr. W. C. Williamson.

Termes at La Rochelle.—Mr. McLachlan having previously stated at the meeting held on June 21st, that the species in question was a native of the Old World alone, though Mr. Warburton is still under the impression that it was introduced to La Rochelle from America; he added the following observations:—"Termes was first noticed at La Rochelle about 1798, and was supposed to have been introduced from St. Domingo, with which place there was much trade at that time. This erroneous idea evidently still exists at La Rochelle as a tradition, having been handed down from generation to generation. A much more probable explanation has been suggested, namely, that it was introduced into La Rochelle with firewood from Landes where it is very abundant. Termes lucifugus has never been found in any part of North or South America, or in the West Indies. In geographical distribution it is essentially circum-Mediterranean, but extends into Spain, Portugal, and as far north as La Rochelle. I possess the insect from several localities on the European coasts of the Mediterranean, and also from Egypt and Algeria."

Dianthus Attacked by Fungus.—Mr. Massee reported upon the specimens sent to the last meeting by Rev. C. W. Dodd, as follows:—"The fungus is *Helminthosporium exasperatum*, Berk. and Br., and is present in various stages of development. As to whether this fungus is the cause of the disease or not it is impossible to say without experimenting on healthy plants. This I am now doing, and will report later. I may add that *Helminthosporium* has been shown to be the cause of disease in other cases."

Bouillie Bordelaise, Cause of its Failure.—The following communication was received from Dr. Russell:—"I send you now the result of my examination of the bouillie bordelaise used at Chiswick. Mr. Barron, I find, took 7 lbs. of sulphate of copper and 10 lbs. of quicklime; he slaked the lime in 10 quarts of water and dissolved the copper sulphate in 7 quarts of water, and afterwards diluted these liquids so as to make the total quantity up to 100 quarts. The clear solution from the lime was added to the sulphate of copper solution, and the precipitate allowed to settle. The Tomatoes were syringed with the clear liquid. The effect has been disastrous, the stems and leaves having in every case been burnt, and the lower leaves had to be removed. Some of the same solution falling also on Vine leaves produced red spots (burns). Now this solution, prepared as above described, was simply a dilute solution of sulphate of copper, containing about one ounce of sulphate of copper in the gallon; so that the whole of the process for preparing the solution was entirely useless, and the product, viz., the hydrated oxide of copper thrown down by the lime, was allowed to settle and was not used; in fact, if you had taken an ounce of copper sulphate and dissolved it in a gallon of water you would have got a solution of exactly the same kind as the one which was used. In the letter from M. Cornu, which you have sent me, I see it is stated that this hydrated oxide of copper is

the active agent, and that the copper ought to be totally precipitated from the liquid. At the same time, I think that the nature and the preparation of this bouillie bordelaise has not generally been clearly stated and understood. I suppose I may assume that this hydrated oxide of copper is the substance which it is desired to prepare, but it will be a matter of the greatest importance as to whether it is suspended in a solution of sulphate of copper, or in lime water, or in pure water; all of which cases are possible according to the proportions of the materials used. In the case of Chiswick there was a deficiency of lime, and hence the copper sulphate remained in solution. To get rid of the sulphate of copper, which appears to have acted so injuriously, the instructions should be to continue the addition of lime till the liquid just ceased to have a blue colour when a depth of 2 or 3 inches is looked through. I should think that the different results which have been obtained by different experimenters may be to a great extent accounted for by the want of an exact description of how the bouillie bordelaise was to be made and how it should be used."

The following are extracts from M. Cornu's letter received by Dr. Masters (from the Muséum d'Histoire Naturelle, Paris):—"The proportions of the bouillie bordelaise vary from 3 to 4 kilogrammes of sulphate of copper, with 3 to 4 of quicklime, and 100 kilogrammes or litres of water [1 kil. = 2½ lbs.; 100 litres = 22 gallons]. It is better to have less copper than lime, so that all of the former may be precipitated. The copper salt must first be dissolved in water (10 litres), and the lime also separately in 20 litres; the two must then be mixed together. Under these conditions the copper is reduced to the state of a hydrated oxide, which is quite or nearly insoluble, and does not burn the leaves. The lime also effects a mechanical adherence of the copper salt to the surface of the leaves. The hydrated oxide of copper becomes soluble under the influence of organic acids contained in small quantities in the liquid in contact with the vegetative organs. There is an elective property in cellulose membranes for salts of copper, and the natural explanation which follows from this fact is; first, that the *Peronospora* is killed by the salt; and secondly, that the spores cannot germinate upon leaves the membrane of which has imbibed the copper salt. Leaves which have thus received the mixture are not invaded by the *Peronospora*, while adjacent leaves are less easily attacked. It has been observed in Bourgoyne that the Vines were much less attacked by the *Peronospora*, the props of which had been treated with the sulphate of copper, than those not so treated. Hence it is advisable to soak all the objects which surround the plants, especially the props or supports, &c., in the bouillie bordelaise, as well as the walls, soil, pots, &c. The author finally suggests the trial of copper sulphide finely pulverised and scattered over the borders, plants, &c." With reference to this last mentioned suggestion of M. Cornu, Professor Church observed that copper pyrites in fine powder suspended in mine water has been proved to be most injurious to young grass in water meadows. Free sulphuric acid and basic sulphate of copper and iron were produced; the acid being the chief destructive agent.

Black Rice from Burmah.—Professor Church announced his discovery of the occurrence of a red pigment in the grain of the Black Rice of Burmah. A sample of this remarkable variety of Rice was recently handed to Professor Church for chemical analysis by the Director of the Royal Gardens, Kew. It was an imperfectly decorticated sample, most of the grains still retaining portions of the dark-coloured pericarp. Plunged into slightly acidulated alcohol the pigment dissolved with a magnificent crimson colour, and proved to be identical with one of the most widely diffused and best known of vegetable colouring matters. This is the compound represented by the empirical formula $C_{20}H_{20}O_{10}$, and known by various names, such as *œnolin*, *anthocyan*, *erythrophyll*, and *colein*. It occurs in black Grapes and Black Currants, in the leaves of the Copper Beech, in the stems and leaves of *Coleus Verschaffelti*, in the florets of the crimson *Dahlia*, &c. It is soluble in alcohol, but insoluble in ether, and nearly so in pure water; and may thus be distinguished from carotin, which dissolves in ether; and from amarantin, which is soluble in water, but not in alcohol. It becomes purple, then blue, and finally green, or even yellow, by the action of alkalis. Its spectrum is quite characteristic. A full account of this pigment was published in the *Journal of the Chemical Society* for March, 1877.

Figs, Diseased.—Mr. Barron sent some varieties of yellow Figs from Chiswick with dark green spots. Each spot proved to have a scale insect, *Mytilaspis ficus*, in it. The leaves were also affected, but these were neither damaged nor discoloured as was the fruit.

Verbascum, Fasciated.—Mr. Paul exhibited a fine specimen of this plant in this abnormal condition. Mr. Henslow observed that he had several very long fasciated stems of *Asparagus* this year, exceeding 6 feet in length and from 2 to 3 inches in breadth. He also added that he had raised a fasciated *Tropæolum* by seed for six years in succession. *A propos* of hereditary malformations, Dr. Masters wrote to say that although Dr. Hugo de Vries had succeeded in reproducing by seed the spirally twisted variety of the Teazle, yet plants raised by himself from seeds sent to him by Dr. Vries had grown quite normally.

Proliferous Mignonette.—A specimen of this monstrosity was sent by Mr. W. Tresceder, Cardiff. It proved to be the same as one issued by Mr. W. Balchin of Hassock's Gate in 1881, and called *Reseda odorata*, var. *prolifera alba*. It was described and figured by Rev. G. Henslow in the *Journal of the Linnean Society*, vol. xix., p. 214, pl. 32. The peculiarity resides in the fact that every branch arises out of the centre of an abortive flower, and occupies the place of the pistil. Occasionally two branches arise out of the same flower. Each of the branches,

especially the lower, may have lateral ones. These also in the same way rise out of the centres of similarly proliferous flowers. The plant, of course, cannot seed, but can be propagated readily by cuttings.

Vegetable Marrow, Malformed.—Mr. Henslow showed a specimen in which a lateral branch had flattened out, and was adherent to the side of a fruit some 5 inches in length. At the summit of the latter a leaf was given off, as well as another branch similarly adherent to a second fruit of about 2 inches in length. At the summit of this was also a leaf, together with a normal flower bud. In addition to the last-mentioned youngest fruit there was also a second growing from the apex of the first or lowermost fruit. This was about 4 inches in length, quite free, and normal in character. By the side of this was a young branch with leaves, buds, and tendrils, all undeveloped, and apparently quite normal.

The next meeting of the Scientific Committee will be held on October 4th.



HARDY FRUIT GARDEN.

Strawberries.—*Preparing the Ground.*—The end of the Strawberry season having come, regard must be had to forming and planting beds and quarters in accordance with the demand or convenience for growing. It is undoubtedly true that Strawberries succeed the best on a deep, rich, moist, loamy soil, having an open aspect and being well drained. With plants rationally managed throughout the year such soil produces in favourable seasons abundant crops of well-developed fruit, while in untoward seasons, or those with a maximum of heated and dry conditions of the soil and atmosphere, it is only soils of similar texture that can meet the requirements of the Strawberry profitably. Such being the case it is, therefore, imperative that the best preparation of the ground be secured preparatory to early planting. Well-worked gardens are generally in a condition most suitable for forming beds without any great amount of immediate preparation. Ground that has been improved and enriched for early Potatoes is usually in splendid condition for planting Strawberries without further trouble than removing the Potatoes, hoeing down weeds, and levelling the soil. Neither digging nor forking is necessary, especially if the soil is somewhat light. Where these favourable conditions cannot be secured, select, if possible, a plot of ground on which no exhausting crop has recently been grown; clear the land of strong weeds or vegetable stumps; then spread a heavy coating of decayed manure upon the surface, and proceed to dig it in, moving the soil as deeply as possible, at the same time incorporating the whole well together. This method of preparation is fairly well adapted for ground in a medium condition of culture, and which has previously received deep cultivation. Comparatively poor ground ought to receive a more thorough course of cultivation, the best method to pursue in such cases being that of trenching, keeping, however, the soil when dug in the same position as before in order to avoid the introduction of the probably inert soil from the lower spit into the surface layer or rooting medium. This can easily be accomplished by taking out a trench about 2 feet wide to the depth of one spit only, across the breadth of ground, and wheeling it to the end, where the digging will be finished. A good layer of manure is then placed upon the remaining spit in the trench, and it is thoroughly broken up with the spade or fork. A similar width of ground is then marked out for another trench, the first spit of it being disposed on the top of the soil in the first trench, mixing thoroughly with it a fair quantity of well-decayed manure. The same process is repeated over the whole piece of ground. This ensures a rich, open, friable condition of the soil, capable of sustaining the Strawberry in vigorous condition for some years.

Planting Strawberries.—Moderately dry and dull weather is the most suitable for placing out young plants. Those recently rooted in small pots will now be fast filling the pots with roots, and will be in fine condition for immediate planting. If since they became established they have been standing closely together on a moist base of ashes, many of the strongest will be rooting through the drainage holes into the ashes. Preserve all these roots; they can easily be drawn through the holes of the pots when the plants are turned out. Plants also established on turf squares will have many rootlets protruding, showing that they also are ready for new feeding ground. As soon, therefore, this month as opportunity arises, the weather and the soil being favourable, put out all the forwardest plants. Recently trenched ground may require treading evenly all over with the feet, but the operation should only be done in dry weather which has existed long enough to dry and crumble the surface. In planting use a trowel, making holes large enough to admit the roots without crushing or turning upwards, and also sinking the ball low enough so as to bring the crown of the plant just level with the surface. Fill in the soil carefully, making it firm round each plant. Before planting see that every plant has its ball of soil or turf thoroughly moistened through. Should the weather at the time of planting be dry a good watering must be given, following it up if necessary until the

plants are established. A light mulching of strawy manure would, if dry weather continues, be beneficial in conserving moisture, rendering constant watering less necessary. The distances of planting vary with the different varieties; 18 inches from plant to plant and 2 feet between the rows are the nearest distances of planting any of the varieties, while some of the strongest growing kinds may require 30 to 36 inches distance between the rows, affording space of 20 to 24 inches from plant to plant. These distances may seem too much, but it will be found that on richly cultivated ground they are not so, while the advantages of comfortably gathering the produce and attending to the culture of the plants are manifest when they reach in a few years the maximum of their vigour.

Varieties to Plant.—There are abundance of good Strawberries from which to select for every purpose. Where special attention is given to their culture, and every means afforded to enable the grower to give unlimited energy to producing the best crops, excellent results are secured, as well as a long season of fruiting. Sir Joseph Paxton is a handsome, early variety, with fruit of a rich, dark, glossy colour, solid, and of good flavour. It is a strong grower, but unlike some varieties of similar vigour it is an excellent cropper. Those needing a Strawberry which travels and keeps well when sent by post or rail will find this variety equal to any. As a small early variety, but also a good cropper, Black Prince is excellent, and very popular among many growers as a reliable Strawberry. Keen's Seedling is good for forcing, and is also a well-known early variety for outdoor culture. Similar qualities are possessed by Vicomtesse Hericart de Thury, also known as Garibaldi, but it is a greater cropper, the fruit through the large quantities produced being small. La Grosse Sucrée, King of the Earlies, John Ruskin, and Grove End Scarlet are other good early varieties, prolific in bearing, fruit of excellent quality. The last named being small is good for preserving. Laxton's Noble ripens early in the season and succeeds well in some districts, its large handsome fruit commanding a ready sale when first in the market. Though early and large, hence valuable on that account, it is not of the best quality. Moreover, it is a variety liable to be barren if care is not taken to propagate from the best fruiting plants. A good midseason variety is James Veitch, a large, handsome, crimson fruited kind, bearing very freely the second year after planting. It is good, though not of superior quality; some say it is tasteless. Sir Harry is a useful variety of the Keen's Seedling type, bearing large, well-flavoured fruit of a dark crimson colour. President is another leading variety, cropping well, the bright crimson fruit being of superior flavour. One of the sweetest fruited varieties is Dr. Hogg; it produces large, pale crimson fruit. Late varieties include some very excellent sorts, which are worth cultivating, even when the time of ripening is of no importance. British Queen requires superior cultivation, which, being accorded, the fruit produced is large, of fine flavour, firm, and juicy. Sir C. Napier is a remarkable cropper. Frogmore Late Pine is a valuable late variety. The fruit is tender, rich, and of a dark red colour all through. For preserving grow Elton Pine, it is a red-fleshed variety. La Constante is a specially free bearer, one-year-old plants never failing on good ground to produce excellent crops. The fruit is bright crimson, and shapely.

FRUIT FORCING.

Pines.—*Cleansing and Preparing Houses for Plants.*—Thorough cleanliness is essential in fruit culture. All the old plunging material must be removed where the bottom heat is furnished by hot-water pipes, and if tan or leaves be employed for bottom heat they should be taken out, or such part of them that has become decomposed and useless. It is a good plan to overhaul the beds thoroughly at least once a year as a check on predatory pests, such as woodlice, which increase rapidly and commit havoc on the rootlets. Everything in connection with the bottom heat must be put into proper order, but, after clearing out the old materials, wash the wood and ironwork with tepid water and soap, using a brush, and the glass inside and outside with clean water. Brush the walls with limewash. Attend to any repairs and paint the wood and ironwork. Chambered beds are much in advance of those surrounded and passing through rubble either for planting out the Pine plants or for plunging the pots in tan. Beds that are formed of rubble around and over-hot water pipes should be turned over, and any dirt or small parts removed to allow the heat given off by the pipes to penetrate the whole and diffuse uniform temperature to the bed. Fresh material will be required for beds, of which 3 feet depth of new tan is ample, where there are pipes placed beneath. If wet turn it a few times, especially on fine sunny days, but it is best placed in an open shed and turned occasionally.

Re-arranging Plants.—Particular attention must be given to the bottom heat of beds that have been recently upset by the removal of the old material and the supply of fresh, not allowing the heat at the base of the pots to exceed 95° without raising them, as too much bottom heat will disastrously affect plants with fruit or those having the pots filled with roots. Allow every plant plenty of room, as crowding induces a weak growth. Water the plants about twice a week, only when needed, and maintain a moist, genial, well ventilated atmosphere. Pine plants grow luxuriantly at this season, and will not require shading, but do not suddenly withdraw it from plants which were shaded for an hour or two at midday when the sun was powerful through the months of May, June, and July, yet dispense with it gradually so as to give the plants the benefit of all the light possible. Admit air liberally when the temperature reaches 85°, but not to lower it, and keep it between 85° and 95° through the day from sun heat. Afford fruiting plants a night temperature of 70° to 75° and succession 65° to 70°. Suckers for

starting at the commencement of September should, if possible, be reserved on the stools.

Potting Rooted Suckers.—Those started in June, and having filled the pots with roots, should be shifted into the fruiting pots before the roots become very closely matted. Queens require 9 and 10-inch pots, and varieties of stronger growth 11-inch pots. Strong turfy loam stacked long enough to destroy the herbage is the best soil. This, torn with the hand, and a quart of soot mixed with every bushel of compost will grow Pines well. Have the compost rather dry, pot firmly, and keep the plants well down. Water thoroughly after potting, and plunge in a bed having a temperature of 90° to 95° at the base of the pots. Allow the plants plenty of room, as when crowded they become drawn and weakly instead of being sturdy; in fact, there is no greater mistake in Pine growing than crowding young plants.

Peaches and Nectarines.—*Earliest Forced Trees.*—Those started in December and early January will soon part with some of the foliage, but it must not be accelerated by the roots being deprived of moisture; the soil should be kept in a moist yet not a saturated condition, as the latter may cause premature growth, and that must be guarded against. As a safeguard against starting the blossom buds, allow such lateral extension as is necessary to appropriate any excess of aliment, a few green and unripe laterals doing that perfectly. With the trees exposed the rain will not cause premature growth because the air is correspondingly cool, and it has a most beneficial and invigorating tendency. Early forced trees do not usually make strong growth, and they form far too many blossom buds, therefore the pruning needs to be carefully performed, as many shoots are mainly studded with that description of buds with wood buds only at the base and extremity, and it is necessary to retain a wood bud at that point, not cutting back next year's bearing wood unless the shoots are of great length. Where disbudding has been properly attended to, no more wood being retained than is required to replace the bearing shoots of the current year and to renew worn-out growths, as well as to supply wood for the proper extension of the trees, very little pruning will be needed. Weakly trees require the smaller growths cut out so as to impart more vigour to those retained, for the weak shoots afford much smaller fruit than the moderately vigorous and well ripened growths. Some trees grow too vigorously and must be lifted, weakly trees should have the old soil carefully removed from amongst the roots, supplying fresh turfy loam. Give a good watering both to the lifted trees and to those that have had the soil renewed about the roots. These operations require to be performed as soon as the leaves are mature and before they fall from the trees, syringing the latter and shading whilst the work is in progress, and for a few days afterwards if the weather is bright.

Succession Houses.—Cut away the shoots that have borne fruit, unless required for extension, and all the shoots where the growths are too crowded should be thinned. The foliage should be kept clean and healthy as long as possible. With the freer access of light and air the buds will form perfectly and the wood ripen thoroughly, provided attention is given to a due supply of water to the roots. The house will need full ventilation day and night, and where the roof lights are moveable and the trees not very vigorous, they may be removed when the buds are sufficiently plumped. Where the fruit is ripening a free circulation of air will enhance the quality considerably, supplying sufficient water to the roots to prevent the foliage becoming limp, and secure air moisture by damping available surfaces in the morning and afternoon, as an arid atmosphere favours red spider and the premature ripening of the foliage; dryness at the roots tends to the fruit ripening unduly, and may render it mealy. A slight shade is sometimes beneficial when the sun is powerful and the apex of the fruit fully exposed to its rays beneath the large panes of glass, to prevent the fruit ripening too quickly at the apex, or when it ripens in excess of the demand. Ants are sometimes very troublesome, eating into the choicest fruits. There is no better plan of keeping the pests from the fruit than to place some partially picked bones in their haunts, and when they are preying on the meat place them in hot water. The bait should be dried before using again, and this persisted in will soon clear a house of the ants. They may also be attracted from the fruit by sinking saucers in the ground level with their edges, and as near the stems as practicable, pouring treacle into each saucer.

Late Houses.—The wood is best laid in thinner than is customary with trees in earlier houses, so as to give it a better chance to ripen, and the foliage is certain to assimilate more food and store it up in the wood, whilst the buds are perfectly formed. Attend, therefore, to thinning and regulating the summer growths. Gross growths tend to impoverish the weaker, appropriate an undue amount of sap, prevent an equal distribution of the nourishment, and are seldom fruitful. They mostly fall a prey to gum disease, and are best removed. Strive to secure an even spread of moderately strong short-jointed wood. Ventilate freely in the early part of the day, allow a good heat from the sun through the day, and close in good time so as to run up to 85°. Sun heat will not do any harm after evaporation has been going on for some time, but it is desirable to admit a little air before nightfall to allow the pent-up moisture to escape, and the gradual cooling of the house will ensure rest. Early day ventilation is necessary for the solidification of the growths. Forcible syringings will keep the trees free from red spider, and should be continued until the fruit commences to ripen. Keep the borders well supplied with water or liquid manure.

Cherry House.—The Cherry is liable, when forced year after year successively, to start into growth instead of resting after the buds are plumped, and the leaves are not capable of much further effort in

elaborating and storing matter, therefore any undue excitement must be guarded against by exposing the trees to the full influence of the atmosphere so far as the house will admit. The border must be properly supplied with water, and if the trees are weakly afford liquid manure. Keep red spider in check by an occasional washing with the syringe or garden engine. Black aphides should be subdued by the prompt use of tobacco water, or some other approved insecticide. Trees in pots may be placed outdoors, and must be regularly watered and syringed to maintain the foliage in a healthy condition as long as possible. The pots should be stood on a hard bottom impervious to worms, and ashes placed around the pots.

Vines.—*Grapes Ripening.*—A little air constantly and a gentle warmth in the pipes, so as to insure a circulation, with increased ventilation in the daytime, assists the Grapes in colouring. As these swell considerably during ripening there must not be any deficiency of moisture in the border. Give, if necessary, a good supply, and early in the day, so that superfluous moisture may be dissipated before night. Heavily cropped Vines may have liquid manure, but dressings of superphosphate are preferable, as it excites root action, and should be well washed in. Allow the Vines plenty of time; if there be any hastening of the ripening process and a deficiency of nourishment it is likely the fruit will be deficient in colour. A good rest at night in a temperature of 60° to 65° with air is a great aid to Vines taxed to the utmost by weight of Grapes, but the Vines must have help by day, securing to them a temperature of 70° to 75°, with a moderate amount of air moisture, sprinkling available surfaces occasionally, and if possible allow the laterals to extend, but overtaxed Vines can rarely cater for more than the principal leaves and Grapes. Overcropping is one of the greatest evils in Grape culture, and to prevent disaster in the year following the Vines should have liberal treatment at the roots, so as to secure the proper formation of the next year's crop in embryo.

Late Grapes.—The bunches must have a final examination, removing all the seedless berries, and thinning where likely to be too crowded. Uneven berries and lack of symmetry are great defects, often spoiling the appearance of an otherwise fine bunch. Allow a liberal extension of the laterals, but keep these so disposed that light and air will have access to the foliage equally. Avoid a large reduction of foliage at a time; it only tends to check root action, and has a bad effect on the fruit, very often resulting in shanking and other ills. The inside border will need water frequently, not at longer intervals than once a fortnight or three weeks, but due regard must be had to the necessity for it before applying it. It is scarcely possible to overwater Vines in full growth, provided they are in well-drained borders of porous material and are not too luxuriant in growth. Besides water it will be necessary to give a stimulant of some kind, especially where the crops are heavy. The liquid from manure tanks is suitable, diluting it with tepid water when too strong. Sulphate of ammonia and nitrate of potash in equal parts may be used at the rate of 1 lb. to 30 gallons of water, and about 4 gallons given, after the border has been well moistened with water, per square yard. Guano is a good all-round manure, 1 lb. to 20 gallons of water makes a useful stimulant for Vines. A good handful of the advertised fertilisers per square yard washed in after each watering assists Vines to swell their crops wonderfully. A light mulch of sweetened horse droppings, added from time to time until the Grapes change colour, encourages surface roots, and greatly aids the Vines in swelling their crops.

Cucumbers.—Pot the seedlings for autumn fruiting as they become fit, pinching out the growing point above the second rough leaf of such as are required for growing in pits or frames, but for trelliswork place a small stick to each plant as they advance. Prepare fermenting materials to afford bottom heat to plants in pits and frames. Thoroughly cleanse the structure, cleansing the woodwork with hot water, soap, and a brush, the glass with clear water, and limewash the walls. Remove all old soil, and make all as clean and sweet as possible. A suitable compost for the plants consists of light turfy loam stacked until the grass is dead, a sixth part of old mortar rubbish and a tenth of charcoal thoroughly incorporated. Fire heat is not necessary in bright weather, yet on prolonged dull periods of cold damp weather a low temperature induces stunted yellow fruits, canker at the collar, and mildew on the foliage. In such weather employ a gentle fire heat at night, and by day if dull and cold. Sulphur dusted freely on the foliage is the safest preventive and destroyer of mildew. Canker may be subdued by a drier atmosphere, and rubbing quicklime into the affected parts until dry. Upon a return to bright weather after a dull period shade from bright sun, so as to prevent flagging, which if allowed wastes the energies of the plants, resulting in ill-shaped stunted fruits, and offers a strong inducement to red spider. Attend regularly twice a week to stopping and regulating the growths, and keep up a succession of bearing wood by removing exhausted and replacing with young fruitful growths. Ventilate at 75°, keep through the day at 80° to 90°, and close so as to keep the latter heat with an advance of 5° to 10° well into the afternoon and evening.

THE FLOWER GARDEN.

Carnations and Picotees.—Seedlings are undoubtedly the most easily grown and are wonderfully floriferous, but there is certain to be a percentage of about 25 per cent. single flowering, or otherwise but little valued forms among them. Only the best of them ought to be marked and propagated by means of either cuttings in July and early in August and by layering during the latter month, all choice named varieties to be similarly propagated; and it must be borne in mind that young plants are both more hardy and give better results than old plants.

Layered plants are usually strong and well rooted, and if carefully detached from the old plants in October, and a portion at least placed singly in 4-inch pots and wintered in a cold frame or pit, these, if duly planted out, flower grandly the following summer. Especially ought the somewhat delicate Germania, Pride of Penshurst, and Mrs. Reynolds Hole to be treated in this manner, fewer failures resulting accordingly. Any border varieties that have been flowered in pots can be most readily layered by planting out in a rough frame filled with light sandy soil, or they may be top-dressed and layered into that.

Violas and Pansies.—The former, if properly grown, are wonderfully effective in the flower garden for many months together. They are at their best from April till August, but in some positions and under certain conditions will keep gay still longer. When they fail it is largely due to being planted too late. Instead of being kept till May or June in store boxes or beds they ought to be put out early in April, and there will then be little or no mildew to spoil the plants. Named varieties or any unnamed seedlings can only be kept true by means of cutting-raised plants, and the cuttings need not be put in till October. In order to have strong seedlings of either Violas or Pansies fit for planting out next April the seed ought to be sown now. It may be sown in either boxes or pans filled with fine soil, and these should be placed either in a frame or under handlights at the foot of a north wall. Failing these conveniences place the boxes in a cool position and cover with squares of glass. Keep the soil uniformly moist at all times and shade heavily till the seedlings appear, after which shade from bright sunshine only. Before they crowd each other prick out the seedlings in other boxes or a frame, using light loamy soil, and during the winter protect from severe frosts only.

Antirrhinums and Pentstemons.—If seed of either of these showy border perennials is sown now as advised in the case of Violas, and the seedlings similarly treated, a grand lot of plants will be available for the beds and borders next April. Spring-raised plants are both late and somewhat shy in flowering, whereas those raised in the autumn flower strongly both early and late. They would really survive most winters in the open, but can be more surely wintered in cold frames and without much trouble. The very best varieties of the former, including the pure white form, are best perpetuated from cuttings. Choice or named Pentstemons are also best propagated from cuttings. Short flowerless shoots of either Antirrhinums or Pentstemons taken off now and inserted in sandy soil under handlights or shallow frames, and kept close and shaded from sunshine, will root freely and make good plants for the borders early next spring.

Dianthus and Sweet Williams.—The former are largely raised from seed sown in heat early in the spring, but stronger and better plants altogether can be had by sowing now, preferably in boxes, but if unavoidably so on a border of fine soil. The partial shade and moist position found behind a north wall is also the best place for raising these, and the seedlings may either be pricked out on a warm border or wintered under glass. Sweet Williams to give a good display ought now to be large enough to prick out 9 inches apart each way on a warm or sheltered border, where they are to flower, or they may be put out twice that thickness and two-thirds of the plants moved elsewhere next autumn or spring. If seed is sown now it should be where the plants are to flower, and thinly in drills 6 inches apart.

Other Seeds to be Sown.—If either Brompton Stocks or Wall-flowers are sown at this late date it should be on extra well-prepared ground where the plants are to flower. Sow *Silenes* at once, or the plants will be too small to be serviceable. Forget-me-nots would also have been better raised earlier, but neat little plants may be had by sowing now, especially if this is done in boxes and these given the benefit of frame shade and shelter till the seedlings are growing strongly. In most midland and northern districts the middle of August is a good time to sow a variety of hardy annuals and biennials, but the end of the month answers well in warmer districts. Some of the most serviceable for the spring decoration of beds and borders are Sweet Alyssum, Candytufts, Clarkias, Chrysanthemum segetum, Coreopsis tinctoria, Cornflowers, Eschscholtzias, Godetias, Larkspurs, Limnanthes Douglassi, Nemophila insignis, Saponaria calabrica, Scabious, Venus' Looking Glass, Virginian Stocks, and Viscaria cardinalis. Either sow thinly in shallow drills where the plants are to flower, and they do not move well out of light soils, or else in a sheltered position, transplanting either in the autumn or early next spring.

THE BEE-KEEPER.

APIARIAN NOTES.

FERTILE WORKERS.

AMONGST the last articles the late "Renfrewshire Bee-keeper" wrote to this Journal was on unfertilised queens producing drones and their supposed uses. The late Mr. T. W. Woodbury proved that drones of unfertilised queens or of fertile workers were capable of fertilising. He had one or more queens fertilised by such a drone or drones. But the Punics have enabled me

to solve a greater mystery in the use of fertile workers. Mr. Woodbury, as well as myself, observed eggs in hives having unfertilised queens, and we supposed were laid by them prior to fertilisation; and I recorded a case a few years ago of a queen filling up the hive with drone brood, then after the spring advanced reversed the order of things, and filled it with a worker brood. From what the Punics have shown I am in the belief that we have both been in error.

Being anxious on the 17th of July about my nuclei, I examined them, and No. 1 is what several others' condition were; further than there were many eggs in others, the first one had only seven, six being in elaborately built queen cells, a sign we are apt to take as the queen is *non est*. But here she was, where did the eggs come from? Had the queen been a laying one and caged, theorists would have said the bees transferred them. The practical bee-keeper does not believe in that, nor does he now believe the queen lays eggs prior to fertilisation, but are entirely due to fertile workers. What we have previously looked upon as pests may be as essential as either drone or queen, particularly to bees natives of warm countries. As I have repeatedly proven queens mate at three months old or more, and that drones do not go with swarms. The fertile workers are produced according to Nature's laws to produce drones, and Nature never errs.

But why were these drones produced in royal cells and fed with queen's food? Perhaps to raise to greater perfection, so that the bees would become more powerful as an antidote to breeding. As it stands, it is a great question for naturalists, as it has been a great discovery to the bee-keeper. I am glad to say that one or more of these queens are now laying eggs that will produce workers, and that queens have been introduced successfully where fertile workers are—they do not attempt to kill them.

PUNICS IN DUMFRIESSHIRE.

A rather queer affair has taken place in an apiary at Hightae, Dumfriesshire. A hive of common crosses in spring is now occupied wholly with pure Punic bees. The proprietor could not understand the presence of a curious black bee he had neither seen nor heard of. It appears to me a small stray swarm, or perhaps a queen may have entered the hive from a distance, and meeting a drone of its own species has become the mother of the strangers. As there are no bees near the place of the Punic race, will "A Hallamshire Bee-keeper" say if he has sent any queens near Lockerbie or Lochmaben?

FOCUSSING THEIR SITE.

When bees leave their hive to work in the fields, they always before leaving the alighting board draw their fore legs over their antennæ, or perhaps through the hook of their fore legs. I have observed this for many years, but failed to understand why. Mr. D. Boswell, before alluded to, said his opinion was that it was focussing their position, enabling them to return to the very spot from whence they left, illustrated by the bees returning to the very spot, even although the hive be removed. This theory has a considerable amount of plausibility, because queens leaving the hive for mating do the same, but when swarming neither bees nor the queen do it, hence the reason queens do not return to their hive unless when attracted to it by the sound or smell, and the more youthful bees by following the crowd only.

Bees return accurately to the spot they left if there has been no alteration of the surroundings, but if a hive similar to their own be situated at the end of a row the bees of the outside row will fly to it, the second one in the row to what was the outside one, and if coloured hives have been used and reversed the bees will cross to each other's hives. These facts may seem to some to upset the theory; but it does not, because the eyes and the antennæ work together by some as yet hidden law, besides there

is that mysterious electrical power in the bee which is a factor in its guide of flight, but which also remains to us a mystery.

The many and different formed eyes also have their uses, both in their flight and when at rest, or when in the bosom of a flower robbing it of its sweets, the simple eyes on the crown of its head enable it to see danger, and so avoid its enemies.—A LANARKSHIRE BEE-KEEPER.



* * * All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Temperature of Stove (J. C.).—The night temperature of a stove in the summer months should be 70°, falling to 65° in the morning, or even 60° occasionally. In the daytime the temperature should be kept at 70° to 75° by artificial means, on cloudy days but with clear intervals keep at 80°, and in fine weather the temperature through the day should be 85° or 90°, closing sufficiently early each day to raise it to 90° or 95°, or a little more with plenty of moisture. The propagating house must have a steady temperature of 70° to 75° by artificial means, and in hot weather it will probably be 80° to 85°, the shade making the difference between the temperature in that and the ordinary stove.

The Dymond Peach (G. H.).—As you sent a specimen of the growth with leaves, also described the flowers as "large," we have been able to identify the variety. In the absence of such aids the Peaches can seldom be named with certainty. Fruits differ in appearance on the same tree according to the position they occupy. Not long ago we heard a few words exchanged at a show as follows:—"Good morning, Mr. Winner. You were first the other day, but both the dishes of Peaches came off the same tree, didn't they?" "Well," was the reply, "I really couldn't say. The foreman helped in the dishing, and *might* have made a mistake. They were not wrongly named, were they?" There was a curious twinkle of the eye, for the Peaches were not named at all, and that is how the "foreman" dished the judges. The Dymond Peach is a very useful variety, being more hardy than many, also good in size, colour, and quality. It was raised in the neighbourhood of Exeter.

Bedding Pelargoniums Dying-off (G. J. B.).—The Zonal Pelargonium stems contain no trace of any fungi, except such as are found on decayed vegetable matter. The small callosities on the stem and at the joints below ground may have been produced by nematoid worms, which may exist in the soil. The dying-off is not uncommon, especially where the ground has been occupied with the same class of plants several years consecutively. In Pelargoniums, John Gibbons and the strong growers generally are more liable to go off than the compact varieties, and it is most common with "leggy" plants that have a considerable portion of the stem buried to render them dwarf, and where water rests about the stem. A good dressing of lime, say half a bushel per rod (30½ square yards), applied to the beds in autumn and pointed in might do good; but wood ashes would be more useful against cecidworms, through supplying sulphates and lime, and they need not be applied until the time of preparing the beds for planting.

Lady Downe's Grapes Scalded (Nemo).—The cause is moisture rapidly evaporated from the berries by the sudden drying of the atmosphere consequent on throwing the house open after it has been kept close and moisture has been deposited on the berries, or it may be caused by the sun heating the atmosphere, and the moisture being so much warmer than the berries, which do not heat as quickly as atmospheric air, is condensed by them, and thus causing injury. The remedy is free ventilation and a little air constantly circulating, so as to prevent the deposition of moisture on the Grapes. A gentle warmth in the pipes, a little ventilation at night, increased early in the morning and admitted freely through the day, is a certain preventive of scalding. Keeping the house closed until 9 A.M. is ample cause of the Grapes

being scalded to the extent of 40 per cent. It is a serious loss, and all the more deplorable as timely attention to the ventilation would have prevented the mischief.

Filmy Ferns and Water Lilies (T. B.).—The answer to your inquiry has been unavoidably delayed. Six good Hymenophyllums are *H. ciliatum*, a native of the West Indies; *C. demissum* and *C. dilatatum* of New Zealand; *H. flabellatum*, Tasmania; *H. hirtellum*, Jamaica; *H. pulcherrimum*, New Zealand; *H. unilaterale*, Scotland; and *H. tunbridgensis*, found at Tunbridge Wells. The following Trichomanes are good—*T. angustatum*, West Indies; *T. radicans* (the Killarney Fern), *T. reniforme*, New Zealand; *T. achilleifolium*, Borneo; *T. alatum*, Jamaica; *T. anceps*, Trinidad; *T. fimbriatum*, a climbing species, West Indies; *T. rigidum*, West Indies and other places; *T. scandens*, West Indies; *T. Yollingeri*, Java. Amongst Todeas the best are *T. hymenophylloides* and *T. Fraseri*, New Zealand; *T. Wilkesiana*, Fiji Islands; and *T. intermedia*, New Zealand. Of Water Lilies you could not do better than grow *Nymphaea alba* and the common yellow form. *N. odorata* (sweet scented) is also hardy; white, tinged with red. This is very much like *N. alba*, and there is another form tinged with pink named *rosea*. *N. pygmaea* is fragrant, white, but a small species. *N. tuberosa* is faintly scented; flowers 4 to 7 inches across, and much after the style of *N. alba* and *N. odorata*. The first is a native of North America, the second Northern Asia, and the third the North-Eastern United States. We do not know where you could obtain the *Nymphaeas*, but Filmy Ferns can be obtained from advertisers.

Ferns for Rockery (A. J. L.).—The following Ferns you will find suitable:—*Athyrium coronatum*, *corymbiferum*, *diffusum*, *Fieldiae*, *grandiceps*, *multiceps*, *multifidum plumosum*, *Pritchardi* and *Victoriae*; *Blechnum Spicant*, *crispum*, *multifurcatum* and *imbricatum-erectum*, *Cystopteris Dickiana*; *Lastreas cristata*, *abbreviata cristata*, *grandiceps*, *fureans*, and *Bollandiae*; *Lycopodium alpinum*; *Osmundas regalis* and *cristata*, *Polypodiums*, *Dryopteris bifidum*, and *cristatum*; *Polystichum corymbiferum*, *cristatum*, *curtum*, *grandiceps*, *Haleanae*, *plumosum*, *proliferum*, *Wollastoni*; *Scolopendrium bimarginatum*, *contractum*, *corymbiferum*, *glomeratum*, *flabellatum*, *lacinatum*, *bimarginatum*, *multifidum*, *reniforme*, and *irregulare*. You could plant amongst these not only Auriculas, but Primroses of different kinds, Snowdrops, Scilla siberica, and hardy Primulas of sorts. If not too shady varieties of Iris germanica and Liliums would do well. Small-leaved Ivies such as *Caenwoodiana*, planted amongst the Ferns, would soon give the whole a natural appearance. We do not advise you to place amongst the stones old tree roots; they soon decay and afterwards spoil the appearance of the whole arrangement.

The Fixation of Nitrogen (Student).—You should read an interesting article on this subject in the "Journal of the Royal Agricultural Society" for December, 1891, signed J. B. Lawes and J. H. Gilbert. We make a short extract:—The results of this new series of experiments, taken together with those of the quantitative series, serve further to show that there is intimate connection between the gain of nitrogen by Leguminosae and the development of nodules on their roots. The alternative explanations of the fixation of free nitrogen seem to be—1, That, under the conditions of the symbiosis, the plant is enabled to fix the free nitrogen of the atmosphere by its leaves. 2, That the nodule-organisms become distributed within the soil, and there fix free nitrogen; the resulting nitrogenous compounds becoming available as a source of nitrogen to the roots of the higher plant. 3, That free nitrogen is fixed in the course of the development of the organisms within the nodules, and that the resulting nitrogenous compounds are absorbed and utilised by the host. It certainly seems to us that the balance of the evidence at present at command is much in favour of the third mode of explanation. Indeed, there seems little or nothing in the facts to lead to the conclusion that under the influence of the symbiosis the higher plant itself is enabled to fix the free nitrogen of the air by its leaves. Nor does the evidence point to the conclusion that the nodule-bacteria become distributed through the soil and there fix free nitrogen, the compounds of nitrogen there produced being taken up by the higher plant. It seems more consistent, both with the experimental results, and with general views, to suppose that the nodule-bacteria fix free nitrogen within the higher plant, and that the nitrogenous compounds produced are absorbed and utilised by the plant. In other words, there does not seem to be any evidence that the higher chlorophyllous plant itself fixes free nitrogen, or that the fixation takes place within the soil; but it is much more probable that the lower organisms fix the free nitrogen. If this should eventually be established we have to recognise a new power of living organisms—that of assimilating an elementary substance. But this would only be an extension of the fact that lower organisms are capable of performing assimilation work which the higher cannot accomplish; whilst it would be a further instance of lower organisms serving the higher. Finally, it may here be observed that Loew has suggested that the vegetable cell, with its active protoplasm, if in an alkaline condition, may fix free nitrogen with the formation of ammonium nitrite.

Names of Fruits.—Notice.—Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named

must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. (F. J.).—The Apple is Early Red Margaret.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing; dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (G. J. B.).—The Fern is *Adiantum Waltoni* if in full growth the fronds attain about 2½ feet in length, including stalks, but *A. æmulum* if the fronds are not more than 15 inches long, including the stalks. *A. Waltoni* is a garden hybrid raised among *A. æmulum*, of which Brazilian species it seems to be a gigantic form.

COVENT GARDEN MARKET.—AUGUST 3RD.

HEAVY supplies now to hand of sieve fruit, realising fair prices.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, Tasmanian, case	2	6	to	5	Lemons, case	10	0	to	15
Cherries, per half sieve	2	6		0	Oranges, per 100	4	0		9
Currauts, Red, half sieve	3	0		3	Peaches, per dozen	2	0		8
" Black, half sieve	4	9		5	St. Michael Pines, each	3	0		6
Grapes, per lb.	1	0		2	Strawberries, per lb.	0	3		1

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beaus, Kidney, per lb.	0	3	to	0	Mustard and Cress, punnet	0	2	to	0
Beet, Red, dozen	1	0		0	Onions, bunch	0	3		0
Carrots, bunch	0	4		0	Parsley, dozen bunches	2	0		3
Cauliflowers, dozen	2	0		3	Parsnips, dozen	1	0		0
Celery, bundle	1	0		1	Potatoes, per cwt.	2	0		5
Coleworts, dozen bunches	2	0		4	Salsafy, bundle	1	0		1
Cucumbers, dozen	1	6		3	Scorzenera, bundle	1	6		0
Endive, dozen	1	3		1	Seakale, per basket	0	0		0
Herbs, bunch	0	3		0	Shallots, per lb.	0	3		0
Leeks, bunch	0	2		0	Spinaach, bushel	3	0		3
Lettuce, dozen	0	9		1	Tomatoes, per lb.	0	4		0
Mushrooms, punnet	0	9		1	Turnips, bunch	0	3		0

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms	2	0	to	4	Maidenhair Fern, doz. bchs.	4	0	to	6
Asters, French, bunch	0	6		1	Myosotis or Forget-me-not, dozen bunches	2	0		3
Bouvardias, bunch	0	6		1	Mignouette, 12 bunches	1	0		3
Carnations, 12 blooms	0	6		2	Orchids, per dozen blooms	2	0		8
Caruations, Malmaison, 12 blooms	1	6		6	Pansies, dozen bunches	1	0		2
Carnations, dozen bunches	4	0		6	Pelargoniums, 12 bunches	4	0		6
Cornflower, dozen bunches	1	6		3	" scarlet, 12 bunches	3	0		4
Eschscholtzia, doz. bunches	2	0		3	Pinks, dozen bunches	2	0		4
Eucharis, dozen	2	0		4	Poppies (var.), doz. bunch	1	6		6
Fuchsias, per bunch	0	6		1	Primula (double) 12 sprays	0	6		0
Gardenias, per dozen	2	0		4	Roses (indoor), dozen	0	9		2
Gypsophilas, French, large bunch	0	9		1	" (outdoor), doz. bunch	2	0		6
Gypsophilas, English, small bunch	0	3		6	" Red, per doz. blooms	1	0		2
Lilium longiflorum 12 blooms	2	0		4	" Tca, white, dozen	1	0		3
Lilium (var.) dozen blooms	0	6		2	" Yellow, dozen	2	0		4
Marguerites, 12 bunches	2	0		4	Stocks, dozen bunches	3	0		6

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitae (golden) dozen	6	0	to	12	Lobelia, per dozen	3	0	to	6
Begonia, per dozen	6	0		12	Lycopodiums, per dozen	3	0		4
Calceolarias, per dozen	3	0		6	Marguerite Daisy, dozen	6	0		12
Cupressus, large plants, each	2	0		5	Mignouette, per dozen	4	0		6
Dracæa terminalis, dozen	18	0		42	Myrtles, dozen	6	0		9
" viridis, dozen	9	0		24	Palms, in var., each	1	0		15
Euonymus, var., dozen	6	0		18	" (specimens)	21	0		63
Evergreens in var., dozen	6	0		24	Pelargoniums, scarlet, doz.	2	6		4
Ferns, in variety, dozen	4	0		18	" per dozen	6	0		12
" (small) per hundred	8	0		12	Rhodanthes, per dozen	4	0		6
Ficus elastica, each	1	6		5	Trailing plants (various), per dozen	3	0		9
Foliage plants, var., each	2	0		10	Tropæolum or Nasturtiums per dozen	4	0		6
Fuchsia, per dozen	3	0		8					
Gerauiums, Ivy	4	0		6					
Hydrangea, per dozen	9	0		15					



ARABLE OR PASTURE?

NOT difficult to answer is the question which this week forms the title of our article, to those who "watch the times," and pay heedful regard to home requirements, which are a safe basis for

the management of every home farm. Given sufficient land for grazing, and the production of an ample supply of corn, roots, and green crops, how can we turn the remainder to profitable account? Arable or pasture, which shall it be? For poor heavy land pasture by all means; but for deep rich soil it is still quite worth while considering if corn, fruit, forage, roots, all or any of them might not be grown for sale. Much depends upon the situation. We should never think of laying down really good soil to pasture within fair distance of a large town. Just see what is possible! Why, even an ordinary crop of Tares, or a growth of Clover, Lucerne, mixed seeds, Trifolium, or Sainfoin is worth £7 an acre on the land as it stands, so that if we include the second crop to be had from at least four of these forage crops there is a certain return of £14 an acre for a comparatively trifling outlay. Or take Italian Rye Grass, and you may realise from four to six times that amount. See that the land is rich in fertility, and the first crop will be ready early in April. It answers best to mow and deliver this, for if sold on the land buyers often delay the mowing and spoil the season. We must be prompt here if we would have four full crops. Apply about 2 cwt. of nitrate of soda as a top-dressing per acre immediately after each mowing, pay no heed to the talk of sleepy folk about scourging the land, but just cram it with manure, grow big crops, hit the markets, and there will be neither time nor inclination to trouble much about depression.

Or to take roots, there are few more profitable crops than early Potatoes, with plenty of good land to be had at from 20s. to 30s. an acre. Here, again, big crops are a certainty with plenty of manure and well chosen carefully prepared seed. Better not touch this crop at all if you cannot comply with these simple but essential conditions. If you can, then the crop may be off the land in twelve or fourteen weeks from the time of planting, and a second crop of autumn Onions, Celery and Lettuce or Autumn Giant Cauliflower follow it at once. All of these crops are easily managed if the land is right; they are all safe crops, and it is worth while remembering that the Cauliflower answers well for sheep folding after the "flowers" are cut, ploughing and ridging for winter following the folding.

Mangolds are a more costly crop, being longer on the land, and requiring much more labour than Potatoes; but it should not be forgotten that on rich land a crop of 40 tons is often grown, which may be sold at the farm for 15s. a ton, or for 20s. if delivered in town. It may, therefore, answer to have an extra field or two of Mangolds when it can be managed without interference with other crops.

Of surplus corn crops Oats are the most generally useful, a really good home-grown sample commanding 9s. or 10s. a quarter more than foreign Oats. Winter Oats have suffered from the extreme cold of the last two winters, but we strongly advise the sowing extensively of this useful crop as soon as land can be had in September. It should not be sown on very heavy or wet land, but on mixed soil or light land, where it winters well, comes early for sheep folding if wanted for that purpose, and gives heavy crops which are usually harvested in July.

Fruit culture on farms resolves itself into two distinct methods, the one being simply an eradication of old worthless trees, and the planting of standard trees of the best sorts as orchard or hedge-row trees; the other plan is to turn one or more fields into fruit plantations, with a mixture of half-standards of Apples, Pears, and Plums, with bush fruits or Strawberries between the trees; or to plant pyramidal or bush trees on dwarfing stocks thickly, so as to have them begin fruiting the second or third year from the planting. The last method costs more than any other for the planting; but, on the other hand, it affords a return more quickly. For example, an Apple plantation of pyramidal trees on the broad-leaved Paradise stock in this, the third year from the planting, had an average of a dozen flower trusses on each tree, and there is sufficient fruit

to render the plantation an attractive sight now. Avoid planting many sorts—a common fault of beginners; rather plant several of each sort recommended for early and continuous cropping, as enumerated in Mr. J. Wright's manual on "Profitable Fruit-Growing." Now is the time to come to a decision about planting, so as to have the land ready by the beginning of November. It must be well drained, if not naturally then artificially, then trenched two-spit deep, or preferably broken up by a steam cultivator at much less expense perfectly well, and for manure we altogether prefer a good mixture of steamed bone flour, mineral superphosphate, and muriate of potash, applied at the time of planting, reserving nitrate of soda for top-dressing during growth in the following summer.

WORK ON THE HOME FARM.

On the whole haymaking was a success, the hay made being really good useful fodder, and not mere dry litter, as so much of it was last year. There is still very much hay about, much not yet cut in the Midlands. It is high time it was off the land now if we would have a good aftermath. Far better make good silage where the weather is broken than a lot of bad hay. The one is cheap and most nutritious food; the other is costly and certainly not nutritious. Ensilage is possible under comparatively moderate pressure, but to have good silage that will keep well air must be excluded from the stack. This is only to be managed by pressure, with which we feel certain of good results. Avoid small stacks; make them sufficiently large to generate heat and exclude air well. The whole process is most simple, inexpensive, and certain. By means of it we avoid the heavy outlay of making hay, cutting, carting, and staking the grass at once. The meadow is cleared, the grass is saved with all its nutriment intact—none washed out of it, and we have a store of sweet wholesome food for next winter and spring, which we can obtain by no other means equally simple and economical.

Bear in mind that the general temperature of the present summer is low, that nights are cold, and rainfall frequent. Calves exposed to such weather cannot thrive as they ought to do, and may be expected in the course of another month to be much troubled with hoose—that trying dry cough which proves fatal to so many young beasts. Prevention is simple and certain, cure difficult and doubtful, leaving behind it a tendency to cold and cough which may occur repeatedly. If you wish to avoid this risk and loss, take in your calves always at night, keep them in on cold wet days, or on very sultry days when gadflies are so troublesome. Continue using your gruel and cake, or crushed corn; see that the building is snug, quite clean everywhere, and well ventilated. Never suffer cattle young or old to lie down upon filthy litter. See that the drinking troughs are cleaned out occasionally. All our drinking troughs are of wrought iron in yards, and out on pasture; they are fed by pipes and a ballcock in an underground cistern from a reservoir and ponds, the iron yields sufficiently to pressure from frost, and the water is always fresh. The troughs are 6 feet long, 18 inches wide, and 13 inches deep.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

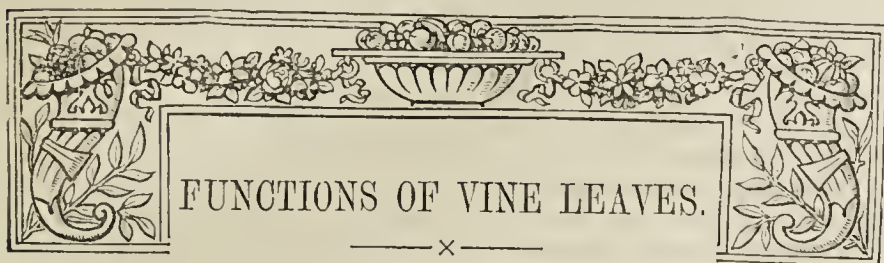
Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.				Rain.
1892.	Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
July.		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.
Sunday .. 24	30.359	58.8	54.4	N.E.	55.6	69.3	52.7	106.5	50.5	—
Monday .. 25	30.297	55.9	51.4	N.E.	59.2	67.3	52.9	114.1	50.8	—
Tuesday .. 26	30.203	61.4	55.8	N.E.	59.0	73.9	54.0	126.3	48.9	—
Wednesday 27	30.224	61.0	57.2	N.E.	60.1	71.6	55.3	114.4	54.8	—
Thursday .. 28	30.245	58.0	54.1	N.E.	60.3	75.7	53.7	117.4	49.2	—
Friday .. 29	30.213	60.4	54.2	N.E.	60.9	76.8	49.2	117.2	44.9	—
Saturday .. 30	30.186	56.2	53.8	N.E.	61.9	75.0	52.7	118.8	50.1	—
	30.247	58.8	54.4		60.1	72.8	52.9	116.4	49.9	—

REMARKS.

- 24th.—Fine, with alternate cloud and sunshine.
 25th.—Generally cloudy in the morning; frequently sunny in the afternoon.
 26th.—Cloudy early; almost continuous sunshine after 9 A.M.
 27th.—Fair, with occasional sunshine.
 28th.—Cloudy early, almost unbroken sunshine after 10 A.M.
 29th.—Bright and sunny throughout.
 30th.—Overcast morning, sunny afternoon.

A fine summer week, with steady barometer, and no rain, no high temperatures, and range generally small.—G. J. SYMONS.



FUNCTIONS OF VINE LEAVES.

MY ideas of the functions of Grape Vine leaves may not bear the criticism of an expert in plant physiology, and very probably differ somewhat from those generally adopted by gardeners; but all the same, I shall venture to give expression to them. In the course of my remarks I shall most probably touch upon points in Grape culture that have previously been well discussed, though not very recently, and if some of my readers feel disposed to combat my propositions good should result out of it. I believe I am right in supposing that it is generally thought that one of the principal functions of the leaves is the drawing up of sap from the roots and collecting gases from the atmosphere, assimilating and disposing of these largely in the direction of maturing the fruit. This undoubtedly does take place, though not so directly as we are apt to think. The leaves are absolutely necessary for the well-doing of the plant, but is their connection with the bunches so very intimate? I think not. They are by no means such unselfish foster nurses as might be thought; at any rate, their functions lie rather in the building up of wood and a reciprocal action with the roots, the bunches merely sharing in the state of affairs (improved or otherwise) that may be effected by an extra healthy top and root action. I may be wrong, but I cannot help thinking that the bunches, after being developed by the aid of stored-up sap and moisture ascending from the roots, are largely if not solely sustained subsequently by the crude sap ascending from the roots and not that elaborated by the leaves. A strong healthy leaf action, therefore, is needed for the indirect and not direct advancement of the bunches. Without plenty of strong leaves, free of insect pests and mildew, no elaborated sap is available for either enlarging the wood tissues or increasing the vigour and activity of the roots, this naturally reacting on the crops.

It has long been the custom to stop the Vine laterals at the second joint or leaf beyond the reserved bunch, though occasionally this rule is departed from, sometimes in the direction of leaving still more leaves, and occasionally the number is reduced, one primary leaf only being allowed. That the plan of leaving two leaves beyond the bunches at the first stopping answers well there is no disputing; but I like to know the "why and wherefore" of everything, and have experimented with a view to testing the practice thoroughly. Of late years, some of our best Grape growers have adopted the plan, and recommended others to do the same, of leaving more space between the Vines or main rods, the distance being nearer 6 feet than 3 feet, as of old; but the question arises, Are they not going to an unwarrantable extreme, valuable roof space being wasted? I hold that Vines must be very strong indeed to require more than a width of 4 feet, and very many good Grapes are grown profitably, and well too, on rods still closer together. If perfectly satisfactory results attend the practice of stopping two joints beyond the bunches, why go to the length of reserving three or four leaves? Instead of the latter being an advantage they are a disadvantage, as far as the bunches are concerned, always supposing there are sufficient leaves or laterals without bunches on the Vine to promote and sustain a healthy root action.

According to my experience it is possible to leave too many leaves beyond a bunch, for the simple reason that they do not add to the size of either bunch or berries, but rather the contrary. The

leaves would really seem to draw sap away from the bunches rather than feed them directly with it, and if I am desirous of having berries as large as possible, this is brought about by stopping at either the first or second joint beyond the bunch. It is a remarkable fact, but one which cannot be gainsaid, that equally as large bunches and much finer berries can be had by stopping at the joint from which the bunch springs than at either the third, fourth, or fifth joint beyond. Please do not misunderstand me and jump to the conclusion that I am now advocating or even hinting at the advisability of stopping laterals generally close up to the bunches or at the first leaf beyond; what I want my readers to do is to test for themselves whether anything is gained, or as far as the bunches are concerned, whether there may not be a loss in leaving too many primary leaves beyond the bunches.

To a certain extent, and that only, the bunches and berries appear capable of helping themselves to the good things going, but they cannot hold their own against the leaves, whose functions would appear to be more in the direction of laying the foundation of future greatness than the direct maturation of present crops. Thus, if too few healthy leaves are left on a Vine future prospects will be marred, and for reasons already given the present crop suffers also. If we either stop very hard or else early shorten back the laterals any time—say when the leaves are still quite green—the chances, almost amounting to a certainty, are that the bunches produced the following season will be fewer in number and much smaller than desirable. When the greater part of the bunches are cut from a comparatively small Vine early, as they sometimes are for the August or September shows, this entailing the removal of a considerable portion of lateral, the remaining few leaves seem quite incapable of storing up sufficient sap for the spurs to produce good sized bunches the following season. I have a small Vine of Foster's Seedling in a second early house that was originally intended as a supernumerary, but it has repeatedly done such good service that it cannot be dispensed with. Out of seven bunches borne on it last year six were cut for exhibition purposes, and, at the risk of being considered egotistical, I will add that three of them gained the first prize in the any white class other than Muscats at the great Shrewsbury Show. From neither of the spurs from which exhibition bunches were cut were there good "shows" this spring; but in anticipation of this, two of the remaining spurs were laid in to their full length, and the others only lightly pruned, the result being perfectly satisfactory.

By this it will be seen that I am quite alive to the value of good foliage, the healthy exercise of the functions of the leaves being of vital importance in all cases, but there is such a thing as overdoing it. A thin canopy of fully developed leaves is absolutely needed by all the bunches, whether the varieties are black or white, direct exposure to sunshine militating against the colouring of the former, and not unfrequently much disfiguring the white varieties. Light the bunches must have without stint, and that is one reason, probably, why the plan of stopping at two joints, or only one, according to the space beyond the bunch, was originally fixed upon, laterals crossing each other unduly shading everything underneath. Training the rods 4 feet apart meets this difficulty, the laterals on these not being too numerous, and stopped two joints beyond the bunches or left to a corresponding length where no bunches are reserved.

One other point I want to enlarge upon, and that is the class of leaves that may be said to be most generally serviceable. In my opinion none but well-placed primary leaves are of any real service, and by well placed I mean those that get the full benefit of all the light and sunshine possible. In addition to being primary, that is to say, some of the first formed, they ought also to be prime or developed to their full natural size, being also of correspondingly good substance. Late-formed leaves, or any laid in to take the place of primary foliage burnt or lost prematurely in some way, never really compensate for the latter, and I will go even further, and

assert that very much leading and sub-lateral growth that is allowed to develop purposely or carelessly is so much wasted energy. It robs the Vine of much that should have gone towards either building up the stem or supporting and increasing the weight of the crop. By this it will be seen I still disagree with the practice of laying in lateral and leading growths wherever space can be found for it, this including the back walls of vineries, and go to the length of considering it misdirected zeal. Let each rod, whether young or old, be well furnished from the ground to the top of the rafters with strong laterals not more than 20 inches in length, and well furnished with healthy leaves, and the latter will be capable of doing all that is necessary in the way of sustaining root-action and building up increasingly serviceable stems or rods. A portion of the sub-laterals that form must be reserved, removing them all being liable to cause the back buds to push prematurely, but they ought to be kept closely stopped at the first joint, and valued principally as affording a safe outlet for superfluous energy.—W. IGGULDEN.

A SILVER WEDDING CELEBRATION.

WE should like to refer more fully to some interesting circumstances in connection with the twenty-fifth anniversary of the marriage of Mr. and Mrs. Harry J. Veitch—Saturday last, the 6th inst.—than we feel at liberty to do out of respect to their wishes. It is, however, impossible to pass in silence either their own action in connection with our gardening charities, or the action of others who have been impelled to show respect to Mr. and Mrs. Veitch at a noteworthy epoch in their lives. They were the first to express their gratitude for their happy life and attendant prosperity, and this was done, apart from other gifts of a more or less private nature, by the presentation of £500 each to the Gardeners' Royal Benevolent Institution and the Gardeners' Orphan Fund. It is only under the pressure of urgent representations in the interests of those institutions that these grants are now made known. So strong was the pressure on this point, that the donors felt it "would be both selfish and unkind to prefer their own wishes and opinions to those of others who have equally as much at heart the welfare of the institutions in question." We are glad then to register these good gifts, and to recognise the high motive by which they were prompted—a thank-offering purely—and, as will be conceded, appropriately and worthily applied. We could enumerate more; in fact, gifts we have good reason to believe to hundreds of people; but it will be agreeable to our Chelsea friends if we pass to the other side of the question.

In this matter we must consider public requirements as well as private inclinations, and the public would not be satisfied that the Press, to which they turn for information on matters of current interest, had done its duty by a suppression of facts that cannot in any sense be regarded as of a private character. We will first, therefore, briefly enumerate some of the gifts, and then, in respect to one of them, offer a needed explanation.

GARDENERS OF THE UNITED KINGDOM.—Solid silver dessert service (seven pieces), of elegant design; case of one dozen silver dessert knives and forks, case of one dozen silver fish knives and forks, Mr. Veitch's portrait (to be painted and given to Mrs. Veitch).

EMPLOYÉS OF THE FIRM.—Solid silver tea and coffee service (Queen Anne pattern), solid silver kettle and tray, illuminated address.

MEMBERS OF THE BIBLE CLASSES, TEMPERANCE SOCIETY AND CLUB IN CONNECTION WITH THE LACKLAND HALL, CHELSEA.—Large Bible, bound in Russia leather, and lined with silk, with beautifully illuminated inscription, "Presented to Mr. and Mrs. Veitch on the occasion of the celebration of their Silver Wedding by members of the Bible Classes, Temperance Society and Clubs in connection with the Lackland Hall, Chelsea, in recognition of their Christian kindness and sympathy with the work of the Gospel carried on there." Motto verse:—"And now, brethren, I commend you to God, and to the word of His grace, which is able to build you up, and to give you an inheritance among all those which are sanctified."—(Acts xxxii., 20). Also a commentary by Bishop Ryle, 4 vols. The youths of the Club gave an umbrella.

COMMITTEE OF THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—Beautiful cloisonné enamel clock and ornaments, with the inscription, "Presented to Mr. and Mrs. Harry J. Veitch on the occasion of their silver wedding, August 6th, 1892, by the Committee of the Gardeners' Royal Benevolent Institution."

FROM SOME OF THE BUSINESS FRIENDS OF MR. VEITCH.—Large solid silver centrepiece or epergne of very elegant design; also solid silver toilet set for Mrs. Veitch.

MANAGERS AND STAFF OF PARK CHAPEL SCHOOLS.—Silver ink-stand, with inscription.

HORTICULTURAL FRIENDS IN BELGIUM.—Bronze figure, bearing the following inscription:—"A. M. Harry J. Veitch, Hommage de L'Horticulture Belge, 1867 le 6 Août 1892." Also a large sheaf of Orchids for Mrs. Veitch. Illuminated address.

HORTICULTURAL FRIENDS IN FRANCE.—Bronze bust of Diana, bearing the following inscription:—"Souvenir Affectueux offert à Monsieur et Madame Harry Veitch à l'occasion du 25me anniversaire de leur mariage par les anciens élèves de l'Etablissement et leurs Amis de France le 6 Août 1892." Also illuminated address.

THE VAN HOUTTE FAMILY.—Large sheaf of flowers to Mrs. Veitch. The numerous gifts from private friends are not enumerated.

The presentations were made to Mr. and Mrs. Veitch at their private residence in Redcliffe Gardens. The display was so imposing that a wish was expressed that it could be seen by a large number of the gardening community, and the question of finding a fitting opportunity for this is receiving favourable consideration.

It may be said that the articles presented by the employés of the firm are of a very massive character, and necessarily of great value. It is noteworthy, too, that the beautifully illuminated address containing the names of the contributors was accompanied by one presented to Mr. and Mrs. Veitch on their wedding day, and twelve of the foremen whose names are there inscribed are also included in the list of Saturday last—a very pleasant subject for reflection and equally gratifying to employers and employed.

The gifts of the Lackland Hall classes and club are particularly valued. The members embrace the poorest, whose habiliments prevented their attending church or chapel in the ordinary way, so a mission hall was provided, and the agencies in connection therewith have done incalculable good.

The clock and ornaments of the Gardeners' Royal Benevolent Institution in pale blue enamel were much admired by visitors, and are highly prized by the recipients.

The silver centrepiece or epergne, convertible into a candelabra, one of the gifts of friends in the trade, may fairly be described as magnificent, the silver supports resembling twisted wood or rustic work rising to a height of 2 or 3 feet; thus the epergne, as richly furnished with fruit and flowers, offers no obstruction to the guests at table.

The continental gifts were characteristic and appropriate. Mr. Charles Pynaert asked the acceptance of the Belgian offerings in graceful terms, and the "sheaves" of flowers presented by him, also that from the family Van Houtte, were such as are not often seen in this country. They were in the form of ladies' sprays, but of such proportions as to cover any ordinary sized lady with floral beauty.

We now come to the last of the presentations of a public nature, though it is placed first in the above list, the gift of the gardeners of the United Kingdom. As hundreds of them knew nothing about it, and must be disappointed in not having participated in it, it is incumbent that the history and procedure pertaining to the gift be briefly explained.

The date of the silver wedding becoming known about three weeks in advance of it, Mr. Peter Blair suggested to Mr. Owen Thomas that something might be properly done by gardeners. The subject was discussed at the Trentham Show, Mr. Thomas by request consenting to become Chairman of a Committee, and Messrs. B. Wynne and J. Wright Secretaries. As it was felt that anything like a public appeal would be averse to the feelings of the Veitch family, all that could be done was to bring the circumstances and proposition before friends by post. Nothing was asked, but an opportunity was simply afforded to gardeners and under gardeners exclusively to join in the movement if they wished, the amounts contributed to range from 1s. to £1 1s., no individual donation to exceed the latter amount. Though all the letters could not be prepared and posted till July 29th, and replies had to be returned by August 2nd, yet in these three days, excluding Sunday, sums amounting to £200 were transmitted to the Treasurer from about 600 subscribers. The action was spontaneous, and the result in the time phenomenal.

The Committee, at a meeting held on the 4th inst., decided to devote half the amount to a silver dessert service, and the remainder to the production of an oil painting of Mr. Veitch, to be presented to Mrs. Veitch, which, of course, remains to be done. A sub-Committee, consisting of the Chairman and Secretaries, with Messrs. T. Baines, J. Hudson, and F. Moore, were appointed to purchase the silver. This was done on Friday last at a cost of £104 3s. 6d., and was presented by them on Saturday, Mr. Thomas reading a short appropriate address, to which Mr. Veitch appreciatively responded, expressing his unbounded gratitude and surprise. The particulars we have given the subscribers (which fairly represent the gardeners of the United Kingdom) have a clear right to have, and it only remains to add that their names, but not the amounts of their contributions, will be inscribed on vellum, with the Chairman's address, and presented to Mr. and Mrs. Veitch, with the portrait, when it is completed.

*LÆLIA MONOPHYLLA.*

ALTHOUGH long known this plant has only been in general cultivation about ten years, it having been reintroduced about 1881. In growth it is unlike *Lælias* generally. It grows in tufts about 6 inches high, the growths bearing a single leaf about 3 inches long, narrow and deep green. The flowers are borne singly, and are $1\frac{1}{2}$ to 2 inches across. The colour is a bright orange scarlet with a purple anther cap. *L. monophylla* is a native of Jamaica, and is found on St. Andrew's Mountain at an elevation varying from 3000 to 5000 feet. It flowers in late summer and autumn. Though not one of the easiest Orchids to cultivate, this little gem merits attention. If grown in baskets in peat and sphagnum and suspended near the glass at the coolest end of the Cattleya house, it should succeed. It does not require an abundance of water at any time, but a sharp look-out must be kept for thrips, which seem to have a particular liking for it. It may be grown in the cool or *Odontoglossum* house, but I should prefer slightly warmer treatment. A well flowered plant may be seen at the present time in the cool Orchid house at Kew.

CATTLEYA SUPERBA.

THE present is about the time for this fine *Cattleya* to produce its flowers. Many growers used to seldom have the pleasure of flowering it, but now that it is better known it can be grown and flowered with greater certainty. Being a native of British Guiana, and found growing on trees along the banks of the swampy rivers of that hot country, it naturally requires heat and moisture the whole year round. It succeeds best in baskets or on blocks with sphagnum and very little peat, and to be grown in the East Indian house near the glass. The flowers are sweetly scented, and of a rosy purple colour, often 5 inches across, and borne from two to six on a spike; the lip is deep purple, and the column whitish. As *C. superba* is never at rest, it should never be allowed to become dry. It was introduced to British cultivation about 1840, but was first discovered by Humboldt in the early part of this century. An example of *C. superba* is flowering in the warm Orchid house at the Royal Gardens, Kew.—C. K.

SACCOLABIUMS.

SACCOLABIUMS form a group as little homogeneous from a horticultural as from a botanical point of view. Botanists separate the *Saccolabiums*, such as we admit them, into several genera. The *S. guttatum* of our culture become *Rhyncostylis*, the *S. giganteum* are ranged under *Vanda*. The species with erect inflorescence are classed either under *Rhyncostylis* (*S. cœleste*) or under *Saccolabium* (*S. curvifolium* and others). From a horticultural point of view I prefer to divide the *Saccolabiums* into two groups, one the species with flowers in pendent clusters, the other the species with erect inflorescence.

To the first group belong *S. guttatum*, *præmorsum*, and *retusum*, all three considered as varieties of the same species. *S. retusum*, *S. Blumei* would only be a synonym of *retusum*, *S. giganteum* (*Vanda densiflora*) and *S. illustre*. To the second group belong *S. cœleste*, *ampullaceum*, *curvifolium*, *Hendersonianum*, and *miniatum*. Finally, I would range in a third group *S. bellinum* and *bigibbum*, two plants having a quite secondary horticultural interest.

The two great sections referred to afford very different interest from a horticultural point of view. The species with flowers in dense and drooping clusters may be ranged among the most splendid, the richest, and the most aristocratic of Orchids. The houses of M. Linden should have been seen in 1871, at the time when the plants of the Schiller collection were associated there, to gain an idea of the aspect of these plants and of the part which they may be made to play.

As soon as we become masters of the culture of cool house plants, or of *Cattleyas*, we appear to have forgotten the wants of hothouse plants. It is rarely that specimens of the beautiful and brilliant species which our fathers grew figure at present day exhibitions. *Saccolabiums* seem to be no longer desired. *Vandas* are ignored by many amateurs. *Aerides* are neglected, and *Phalænopsis* hardly find favour even with those who know how to cultivate them. People speak of the progress made in Orchid growing. It is an error. Our fathers did not know, or knew little of, *Odontoglossums* and *Masdevallias*; but on the other hand they

cultivated all the other plants as well as, if not better than, we do. I ask to see the large specimens that Thibaut, Linden, Pescatore, Veitch, Williams, Leroy, and Chenu showed with pride. Are there no amateurs among us desirous of reviving that great period? I have myself seen in 1877 a *Saccolabium retusum giganteum* from the establishment of Thibaut & Keteleer, cultivated by M. Chevrier at Rosey par Saint-Désert, having a cluster of more than a yard.

The *Saccolabiums* with erect flowers are far from producing an equal effect to the species with pendent inflorescence. The most beautiful of them is undoubtedly *S. cœleste*. This delightful species was not originally introduced by Roebelen, as indicated in



FIG. 17.—SACCOLABIUM AMPULLACEUM.

Veitch's Manual, but by Auguste Regnier, a sagacious explorer in Indo-China. It was in going in search of this plant, of which he had only sent a few examples, that he was killed in the province of Pursat, in the Cambodge. It was probably from this province that Roebelen introduced it in his turn, as well as the attractive *Phoenix Roebeleni*, which is as common there as *Chamarops humilis* is in Algeria. *Saccolabium miniatum* is also Indo-Chinese. It is found in Cochin China, in the Cambodge, and in Siam, and I have introduced it on several occasions. *S. ampullaceum* is also represented by a form which I have not introduced for a long time, but which Regnier possessed. Generally considered, all these erect-flowered species are charming, occupy little room, and merit attention.—(L'Orchidophile.)

In connection with the above interesting remarks on *Saccolabiums*, is represented (fig. 17) a prominent member of the erect-

flowered group—*S. ampullaceum*. This is a dwarf, compact, and beautiful Orchid, with dense erect racemes of deep rose-coloured flowers, about three-quarters of an inch across, springing from the axils of the leaves. The lip bears a slender spur of a pale rose hue. The stem is erect, 6 to 10 inches high, the leaves short, thick and channelled, dark green with purple dots. It flowers in May and June, and does well on a block or in a basket near the glass in a warm house.

ABOUT VIOLAS.

(Continued from page 48.)

It is a most healthy sign of the times that in Dr. Stuart's new type of Viola, of which his seedling Violetta is the type, we are going back to a close habit, very free in flower, with smaller flowers of good form. Dr. Stuart resides at Chirnside, on the Scottish border, and I saw flowers of Violetta and some of his seedlings last year by favour of Mr. G. Steel of Heatherslaw. I have very recently received from Dr. Stuart, whom I have never had the pleasure of seeing, or Mr. Steel either, a box of blooms of his beautiful seedlings from Violetta, a distinct dwarf, close-growing variety, with medium-sized white flowers with bright yellow eye, but entirely free from any dark marking in the centre; the flowers are well formed, of good substance, and are deliciously fragrant. This variety will be generally sought after, as will also its progeny in the seedling varieties now sent to me by Dr. Stuart and Mr. Steel, all of which partake of the strongly marked fragrance of the parent variety. Those from Dr. Stuart are as follows:—

Marginata.—A medium-sized flower of exquisite form, substance, and smoothness, creamy white, flushed on the margin with a thin bordering of pale blue lilac. A lovely variety.

Picotée.—White, flushed with a pleasing shade of bright lilac, with the refined form of *Marginata*. Also a lovely variety.

Summer Cloud.—Of the same type, the upper petals clouded with blue lilac, with the same shading in a lesser degree in the lower petals, pale yellow centre. Very pretty.

Blush Queen.—A very refined lovely variety, exquisite in form, of a soft blush tinted lilac colour, with small yellow centre. A distinct and lovely variety.

Springville.—Of similar type to the preceding, perfect in form, of a pale primrose colour, with a deeper tint of colour in the centre. It is very like Dean's Bridesmaid in colour, but of the Violetta type, and is a very acceptable variety.

These five have the distinctive character of the parent Violetta, and I hail these six with intense satisfaction as preserving the tufted habit of the Viola, which I am anxious to see preserved. At present many of our so-called Violas, or Tufted Pansies of some, have far too much of the Pansy breed in them, and are not so floriferous, and continuous in bloom as the true "tufted" form of Viola.

Then Dr. Stuart has other seedlings, in which the Violetta type is not sustained. *Sylvia* and *Sylvia's Rival* bear a very close resemblance to the well known and greatly valued variety Countess of Hopetoun, and are simply reproductions of that variety so far as the flower is concerned, but no foliage accompanied the blooms, so that I am unable to judge of their habit and distinctness in growth from the Countess. *Sylvia's Rival* is the whiter of the two, and Dr. Stuart's Bridal Wreath runs very close to both in colour, size, and form, all three having large blooms. I cannot regard either of them as desirable acquisitions by the side of Countess of Hopetoun, for nothing can well beat that grand old variety in every respect.

Another of Dr. Stuart's seedlings sent to me is a distinct fine variety of a bright blue lilac colour, free from any central markings; it is named *Blue Gown*, and I think this will be a telling bedding variety. The flowers are large, not of the Violetta type, and of good substance, and look as though they would stand wet weather well. In colour, size, and form it is almost identical with a fine seedling in this neighbourhood, of which two large beds exist in full beauty, and have been bright and gay from April. It is a seedling from *V. lilacina*, a good old variety, but with a constitution not sufficiently strong to stand hot weather. The seedling has a stronger constitution, and is of close habit, three or four days of almost tropical weather not having affected it, while two large corresponding beds of *lilacina* showed marked symptoms of the heat. I had thought as a name for it *Summer Cloud*, but Dr. Stuart has forestalled me with this name for one of his lovely Violetta seedlings, so the other still remains unnamed. It is a source of great pleasure to me that the Viola has become so immensely popular as a garden decorative plant. It has been uphill work to make it so, and those who have all along stuck to the Viola and championed its cause have now their reward.

Immediately upon the receipt of Dr. Stuart's box of flowers, others came from my old correspondent and enthusiast in good floral work, Mr. George Steel, of Heatherslaw, and it may interest many to know something about them. I will first take the shades of yellows—viz.,

Beauty of Heatherslaw (Steel).—A medium-sized flower of beautiful form, stout, smooth, and entirely free from any ray or marking; a pure self of a rich yellow colour. I was so struck with the similarity of this seedling with my Golden Circle, that I at once gathered flowers of the latter for comparison, and I could see no difference only that one might be a trifle more yellow than the other. At all events, they are not distinct in colour and ground, and as my Golden Circle is in the hands of others also, it should take precedence over the *Beauty of Heatherslaw*, not yet sent out. My Golden Gem, and Mr. Loudon's *Roths*, sent out by Messrs. Dobbie & Co., are of the same type, and very much like a beautiful variety, *Queen of Spring*, which I introduced into notice ten or eleven years since. In fact, *Roths* is simply *Queen of Spring* again or scarcely distinct from it. All are lovely pale or deeper shaded yellows, pure self, and without an atom of marking in the centre.

Venus (Steel) is a counterpart of Dean's Bridesmaid, but a little deeper in colour; a pure self, entirely free from any marking and a very desirable variety.

**Ophir* (Dr. Stuart).—Deeper in colour and smaller than *Springville*, already described. Bright yellow blotch with paler margin.

Marquis of Waterford.—This is of the old *V. lutea* type, small flower, a close short-jointed habit, and a most profuse bloomer; bright yellow with rayed centre. Mr. Steel thinks most highly of this variety as a bedder, and from what I see of its habit in my garden from plants sent to me in the spring by him, it is a most useful dwarf yellow variety. It is certainly an improvement on the old *V. lutea*.

White's Border Queen.—We have the Pansy breed visible in this variety; bright yellow margined with deep blue lilac, but with a small blotch in each side petal and a rayed lower petal. Mr. Steel says it is a seedling from *Skylark*. It is pretty, and will please many, but I do not care for it as an acquisition, and it is a reproduction of an old Pansy of fifty years since.

**White Lady* (Dr. Stuart).—A very pretty white with small lemon centre, good form and substance, and very pretty.

**Mrs. Joseph Oliver* (Steel).—A little gem of exquisite form, almost snow white with a very small yellow eye.

**Violetta* (Dr. Stuart).—The original of the type is white, slightly clouded with blush, and distinct yellow centre. It is deliciously fragrant, which is also a characteristic of the seedlings.

Sylvia.—Already described in Dr. Stuart's sending.

**Maggie Steel*, Mrs. George Finlay, and *White Lady*.—All Steel's seedlings. They are very much alike and all very pretty, but we scarcely need all, certainly not as distinct varieties. *Maggie Steel* is very pretty, pale creamy white with yellow centre, and *White Lady* may be the best and the whitest. Mrs. George Finlay is smaller and has more cream colour in it and is very pretty. This ends the whites.

Nina.—Of medium size, exquisite form and of good substance, bright in colour, striped and clouded violet purple and rosy lilac, distinct and good, a welcome acquisition.

**Picotée* (Dr. Stuart).—A lovely variety already described.

**Summer Cloud* (Dr. Stuart).—Already described.

**Mrs. Stevens* (Steel).—Deep lilac with a lighter shade in the lower petals and large creamy white centre, with small yellow central blotch, very pretty and deeper in colour than *Blush Queen*.—W. DEAN.

LETTUCE FOR AUTUMN AND WINTER.

ANY time during the month of August is good for making a sowing of Lettuce seed of both the Cabbage and Cos varieties for an autumn and winter supply. I have found ground from which early Potatoes on sheltered borders have been dug suitable after applying a top-dressing of soot, forking over the ground and otherwise preparing the soil by raking it level and making it fine for the seeds. When the ground is ready draw the drills 1 foot apart and sow the seeds evenly, afterwards covering them with fine soil. I like to make a sowing the second week in August, also another at the end of the month. It is a good plan to fix some forked sticks or a sort of trellis of wood over the beds to support a net for preventing the birds taking the seeds, as the finches are very fond of Lettuce seeds.

If a large supply of Lettuce is required prepare other vacant ground, and when the first seedlings are sufficiently large to handle

*Those marked * are all Violetta seedlings.

thin out the drills, and transplant the seedlings 1 foot apart each way, taking care to leave in the seed drills plants 9 inches to 1 foot apart for a first supply for cutting. The transplanted Lettuce will supply useful salads later on. I have generally planted Lettuce from the seed beds on different aspects—viz., a south and a west border, and by due attention to keeping the soil open and the ground clean have generally succeeded in maintaining a successional supply. Where cold frames can be had it is a good plan to fill them with plants from the late sowing.

I have found Stanstead Park for a Cabbage Lettuce and Hicks' Hardy for a Cos variety everything to be desired as to hardiness. With proper care they have never failed me, enduring the hardest and most severe winters. The above are good old varieties, and can be thoroughly depended upon if the seed is obtained true. All the Year Round, Hammersmith, and Black-seeded Bath Cos are also good varieties for hardiness. I have penned these lines mainly for amateurs, who often take a great deal of trouble to get a supply of serviceable Lettuces and Endive (which requires the same treatment except as to being blanched), but who too often fail in their attempt. Dry fern is useful to protect the Lettuce from very hard frost and east winds.

Now that we have such beautiful and quick turning in Lettuces as Early Paris Market, Golden Gem, and Perfect Gem, which can be had so quickly, it is hardly worth while taking the trouble to plant out for spring use. If seed of the above is sown during the winter in a warm house in boxes or pans, and the seedlings thinned out and transplanted into other boxes at regular intervals, a good supply can be provided. Shelves near the glass or by the side of the walks are good places to stand the boxes in the houses.

Should anyone not have the convenience of glass for a spring supply, Stanstead Park and Hicks' Hardy will not fail them in the spring if properly attended to. No doubt other gardeners can mention other sorts they have proved to be hardy. By so doing they will confer a benefit on the community.—JOHN CHINNERY.

NOTES ON FORCED FIGS.

THE earliest forced trees will soon be cleared of their second crop—indeed, the very early varieties are cleared of the fruit, and would perfect, if allowed, a third crop with little trouble. This they must not be permitted to do, for it is not only a severe tax on their energies, but renders them practically useless for producing a full first crop next year. All the fruit, therefore, that shows after that reserved for the second crop should be rubbed off, and this will cause other Fig buds to develop at the same joint, but not become conspicuous until the close of the season, and these, with those formed near the points of the shoots, form the first-crop Figs another season, and are very much the most important crop. When the fruit is all gathered the main point is to secure the proper maturation of the growths, and if due attention has been given to stopping and thinning the shoots little will now be required, except attention to ventilation and watering. The syringe must be laid aside, except for the purpose of giving an occasional forcible washing to cleanse the trees of dust and red spider, and if scale is troublesome remove it with a brush moistened in a solution of softsoap, 3 ozs. to a gallon of water. The growths must not be stopped, but they should be thinned where crowded. Future crops depend entirely upon the ripening of the wood, therefore maintain a circulation of dry warm air until the leaves die naturally.

If the trees have roots extending beyond the pots into the plunging material or fermenting bed they should be cut off a few inches of the pots, using a sharp spade. This will check any tendency to continued growth, and cause the points of the shoots to concentrate the energies on the formation of embryonic Figs at the axils of the leaves. That is what is wanted—thoroughly ripened wood well studded with Fig buds scarcely discernible. Trees not having the roots much outside the pots, and not growing, but having the wood well ripened, may be placed outdoors in a sunny sheltered situation. They must not become so dry at the roots as to prejudicially affect the foliage, then the open air influence will do much to invigorate them and harden the wood. Under no circumstances, however, must they be put out whilst the growth is immature, for in that case they must be continued under glass, and every care taken by full exposure to light, a free circulation of air, and no more water at the roots than sufficient to keep the foliage healthy to secure the complete maturity of the wood.

Trees that ripened a first crop in June will now have the second crop advanced for ripening, and to insure fine fruit should be liberally supplied with water or liquid manure if carrying a heavy crop and the trees are weakly, but the manurial applications must not be of such a nature as to cause continued growth in the trees, for it is important to have the wood well ripened, so as to secure a

full first crop another year, and over-luxuriant trees should be marked for lifting. A mulching of short material will do much to accelerate the finishing of the crop by keeping the soil regularly moist, also by encouraging roots and a full supply of nourishment. When the fruit commences to ripen water must be withheld from it, therefore strive to have the foliage free from red spider by forcible syringing, so as to expel it where it has obtained a footing. Afford a free circulation of air, and in cold wet weather a gentle warmth in the hot-water pipes is necessary to maintain a warm rather dry atmosphere, without which Figs can hardly be had in perfection.

The fruit in late houses from which one crop only is taken will be advanced for ripening, therefore spare no pains to have the foliage free from red spider, syringing forcibly. Feeble squirts neither break up the webs nor expel the mites. They are worse than useless, and constant bedewings do more harm than good. One thorough washing is worth any number of dampings from an insecticidal point of view. Afford due supplies of water or liquid manure to the roots. A light mulching of lumpy manure assists the perfecting of the current crop and the formation of Fig buds for another season. The fruits that are now green and part swelled only are of no use for another year, as late house Fig trees only mature the first crop, therefore these incipient second crop Figs should be removed, and then other buds will form by the side of where they have been, and a splendid crop of fruit be had the following season. This is too little attended to in Fig culture; trees are burdened with a second crop that can never ripen, and the only crop that could be often rendered practically nil through the exhaustion of the wood on premature fruit. A second crop can be had by starting the trees earlier—say in February, and then they will ripen a first crop in late June or early in July, and afford a second crop at the end of summer, often as late as November, Negro Largo being a grand fruit late in the season. The finest fruit is the first crop, though often the scantiest, but good fruit of both may be had by judicious and timely thinning. White Marseilles and Brown Turkey are perhaps the best all-round first and second crop Figs. For a late supply Col de Signora Bianco, Nebian, and Agen should be grown, as they are unsurpassed in quality, but in most seasons they require fire heat to ripen the fruit. Avoid wetting the fruit after it commences ripening, and keep the growths rather thin alike for the benefit of the fruit and for the thorough solidification of the wood for future crops. Stop side shoots at the fifth leaf, but do not encourage too many of these spur-growth, for they are liable to crowd the trees, and it is important that all the growths, especially their points, and late in the season be fully exposed to light.

Young trees in pots from this spring cuttings and intended for fruiting in the second or third year of their growth should be trained with a clear stem, not allowing any suckers on any account. Take out the point of the shoot when a few inches high for dwarfs, but for standards they must be trained with a single stem until the height required is attained and then be stopped. Pinch off the tops of strong shoots to form the foundation of a symmetrical head after side growths are originated, and rub them off to the height of stem required.—G. A.

IMPATIENS.

THESE beautiful flowering plants are extremely useful for furnishing the stove and greenhouse, also for purposes of general decoration; and considering their comparatively easy culture one might expect to see them grown on a much more extensive scale than is usually the case in private establishments. Another important point in their favour, provided proper attention is bestowed upon them, is their freedom of flowering, as they can be had in beauty all the year round. The stove and greenhouse varieties may be propagated from cuttings at almost any season of the year. Care should be taken to select strong healthy shoots, as they root more readily and form useful plants much more quickly than do weakly cuttings. They are best inserted singly in small pots and placed in a close propagating frame, where they must be shaded from the sun. When rooted they should be somewhat restricted at the roots by only allowing very moderate shifts. Useful decorative plants may be grown in 6 or 8-inch pots, and they usually succeed better in these than in larger sizes. A sound rich porous soil suits them admirably.

Impatiens Sultani is without doubt one of the most useful of the family. It is of a neat compact habit, and almost a perpetual bloomer. Small plants with their brilliant scarlet flowers are most effective for decorative purposes, especially for the dinner table and drawing-rooms. It is quite at home in a stove temperature, and also does very well in the greenhouse during the summer months. Impatiens flaccida alba, although not so neat in habit as

Sultani, is nevertheless well worthy of a prominent position, its pure ivory white flowers, which are produced in great profusion, making a pleasing contrast to the bright scarlet of Sultani. It is frequently met with in gardens under the name of *Impatiens Sultani alba*.

Impatiens Hawkeri is a very useful and showy variety and should find a place in all collections of stove-flowering plants. It is of free growth and good habit; but, unlike the preceding varieties, it requires a liberal amount of pot room. Young plants that are well rooted in 60's may safely be potted into 24's, provided careful attention is paid to the watering, till the roots are well established in the new soil, when they must never want water. This variety seldom requires to be stopped, as it naturally breaks all down the stem, forming dense and compact specimens in a short time. Its flowers, which are produced freely, are large, and of a rich carmine colour encircling a small white eye.

Impatiens Balsamina (common Balsam) is a popular favourite with all classes; yet, although of comparatively easy cultivation, good blooms and well grown plants are far too rarely seen. Seeds should be sown about the middle of March, and not later than May, in properly prepared pans of rich sandy soil, and placed in a gentle bottom heat of about 65°. As soon as the first rough leaves are developed the plants should be placed in 3-inch pots, care being taken to keep the seed leaves close to the soil. As soon as the roots reach the sides of the pots the plants should be shifted into 6-inch, and then finally into 8-inch or 10-inch pots. The plants require all the light possible, and ought to be turned around frequently so that they do not draw to one side. A gentle sprinkling with the syringe at closing time is very beneficial to them till they commence flowering. The soil must be light and rich, and plenty of drainage allowed, as the amount of water required after the plants are well rooted is very great. If they are liberally supplied with liquid manure they will continue in beauty for a long time.—G. PARRANT, *Ashby St. Ledger's Lodge, Rugby*.

COMMON ASPARAGUS FOR POT CULTURE.

It sometimes happens that useful hints are picked up in apparently the most unlikely places, and by cultivating our powers of observation we often see things which might otherwise pass unnoticed, and which, when retained in the memory, prove valuable aids to success in cases of peculiar difficulty if not in everyday practice.

About two years ago I was walking down one of the many narrow busy streets of London where hundreds of commodities, extremely varied in character, provided a brisk trade in the open air. Of course, the itinerant hawker of plants and flowers figured among the number, shouting in eulogistic terms of the beauty of his wares, which were "a-growing and a-blowing." I was much struck with a batch of remarkably pretty Fern-like plants in 3-inch pots, and in the distance could not discern what they were. Closer inspection clearly showed they were seedlings of the common Asparagus, sown thickly and grown to a height of about 9 inches or a foot. Here, I thought, is a hint well worth acting upon, for I could conceive few things more useful for house decoration than a large batch of similarly well-grown and pretty plants. Since then I have grown many batches, which have fully borne out my opinion as to their great value. For arranging in small groups, jardinettes, or baskets they are extremely useful, and large plants are effective when placed singly in vases. I have just sown a good batch in 3-inch pots. These will be ready for use by the end of October and November, a time when small Ferns are not generally plentiful. Another sowing made early in spring will provide plants for use during the summer months. If required several sowings might be made during the spring and summer to keep up a regular succession of young plants. I sow about ten or a dozen seeds in a pot, and do not thin the young plants. The soil used is two parts loam and one well-decayed hotbed manure, with a little soot added, and in this compost they grow well and keep good in colour. Those from the present sowing are grown in cold pits till frosty nights set in; then they will be kept near the glass in a greenhouse temperature. Sowings made early in the spring should, of course, be kept for a time in a gentle heat, and afterwards transferred to a greenhouse shelf or cold pit.

Plants which have matured a season's growth, if cut down and potted in the spring, make good clumps in 6-inch pots the same season. I have grown a few in this way, and have found them useful; but I consider this Asparagus is better adapted for using in small pots as above indicated, so that when they have done duty in dwelling rooms or entrance halls the majority of them may be consigned to the rubbish heap, reserving a few of the most

promising potfuls for growing another season. By working on these lines a great quantity of useful decorative material may be obtained from a limited amount of glass.—D.

JUDGING HERBACEOUS FLOWERS.

IN view of the fact that herbaceous perennials are now so frequently exhibited, is it not desirable that some principles should be agreed upon for the guidance of exhibitors and judges? Without some principle to go upon it is most difficult to decide between rival stands of anything like equal merit, and the decision when arrived at is not likely to give satisfaction.

We have had a class for these flowers here, in connection with our Rose show, for many years; offering prizes for thirty-six varieties, twenty-four varieties, and twelve varieties, which have year after year brought excellent competition. We think we have learnt by experience some things as to the best way of showing herbaceous flowers, and something also as to the way in which they should be judged. We have found that no two judges are agreed as to which flowers are good and which are common; we have therefore adopted "beauty" as the simple criterion, asking also, of course, that all flowers shall be shown in the best possible condition, and be the finest of their class. We also require that they shall be well and tastefully staged. The instruction in our schedule runs thus, "In judging the herbaceous section, beautiful flowers and effective arrangement will be preferred to mere rarity."

We encourage such staging as will show as far as possible the habit of each flower, and for this purpose the stalk should appear, or as much of it as may be required. We discourage mere "bunching," while we like to see a sufficiency of flowers in each tube; we like each flower and each spike to be so far separate that the judges may discern its excellencies or defects. The "bunching" system, while it makes a great display of collective colour, deceives the judges by tying together small spikes (say of Lily or Phlox) and producing the effect of a good spike; it deceives also the public, for whose instruction chiefly our flowers are exhibited. There should, however, be some understanding as to the showing of varieties of the same class. Of course there are certain things of which you cannot show varieties in the same stand without loss—e.g., Delphiniums and Phloxes; but does this hold good with such things as Lilies and Campanulas, which differ from each other so much not only in colour, but in form? I should like to elicit some expression of opinion on the points I have raised.—L. GARNETT, *Christleton, Chester*.

FLOWER GARDENING IN LONDON.

SUMMER flower gardening should now be in the zenith of its beauty. It is seldom that the plants become properly developed and full of blossom ere the summer is half over, and oftentimes August has set in before the beds are well filled. Such is the case this year. A long spell of cold dull weather during last month retarded the growth of tender plants, and prevented others blooming so freely as they otherwise would have done. This is most noticeable in several of the parks and public gardens in the metropolis. Notwithstanding the skill brought to bear upon the bedding, many of the beds this year present rather a bare appearance, which can only be attributed to the weather. Happily, however, these are exceptions, not the rule. In some instances more freedom and greater variety are noticeable than in former years, whilst the employment of hardy plants indicates other changes in the near future. Public taste has to be gratified in the parks, and it is therefore in such places that the most progress in flower gardening is generally made. Each year, I am glad to note, brings some improvement, and less of the stereotyped arrangements which were so fashionable a decade or so ago.

HYDE PARK.

For summer bedding this park has long been famous. The series of beds that run parallel with Park Lane are, as a rule, most elaborately planted, and usually attract considerable attention. This year is no exception to the rule. The beds, perhaps are not quite so gay just at present as they sometimes are, but a few days' bright sunny weather will improve them wonderfully. Still, they are even now well worth a visit. Among them may be found a great variety of combinations of colour such as are rarely seen in private gardens. Some form vivid contrasts, others quiet and pleasing harmonies. Here we find a bed filled with gay Pelargoniums, and edged with Lobelia or Pyrethrum in the ordinary manner; there may be seen some planted with graceful habited foliage plants, relieved by the daintiest of colours, such as Plumbago capensis, Heliotrope, white Lilies, and delicately tinted Violas; all are good in their way, and each has its respective admirers. The enumeration of the most noticeable combinations might be interesting.

Entering the park by Stanhope Gate the visitor is at once attracted by a number of beds filled with Zonal Pelargoniums and Violas. One bed, oblong in shape, is very showy. The centre is planted with Pelargonium Mrs. Morris and Viola Blue Bell, and around these are rows of

Colcus Verschaffelti, *Pelargonium Princess Alexandra* (variegated foliage), the edging being *Lobelia pumila magnifica*. Near to this is a very pretty combination. The body of the bed is filled with pink *Pelargonium Titens* and blue *Violas*, the other portion being planted with light-leaved *Robert Fish Pelargonium*, *Coleus*, and white *Lobelia*. In the background is a group of dark-leaved *Cannas*, which add to the effect. An uncommon bed is that of dark *Fuchsias*, *Lilium candidum*, *Petunias*, herbaceous *Lobelia Queen Victoria*, and the *Canary Creeper* (*Tropæolum canariense*) trained on stakes, the groundwork being filled in with pale blue *Violas*. This may seem a strange combination, but the effect is good. The white *Lilies* contrast well with the tall dark *Fuchsias*, heavily laden with bloom, whilst the *Tropæolums* add their own peculiar charm.

Tuberous *Begonias* are largely employed, but the plants do not seem to have grown so vigorously as they usually do. In most cases, however, they are flowering grandly and do not present that washed-out appearance which in dull seasons is characteristic of the *Zonal Pelargonium*. One noticeable feature in the bedding at Hyde Park is associating *Violas* with *Begonias* and *Pelargoniums*. The delicate hues of the first tone down the vivid colours of the two latter, and the result invariably is a charming effect. A small bed planted rather sparsely with *Begonias* and blue *Violas*, the ground being covered with *Lysimachia Nummularia aurea*, and edged with *Iresine* and *Lobelia Blue King*, is exceedingly pretty. Near to it are clumps of a small dark crimson climbing *Tropæolum* planted on the turf and trained on stakes. These are most effective, and might with advantage be imitated. Similar masses of the same *Tropæolum* are disposed in a large bed filled with clumps of white *Liliums*, *Canterbury Bells*, white *Petunias*, and tall *Abutilons*, the ground being covered with blue *Violas*. The effect is excellent. The plants are not too crowded, but fill the space comfortably, and their graceful character contrasts pleasantly with the more formal beds hard by. Near this another bed similarly planted is likewise good and out of the common. Here we find the blue and white form *Campanula pyramidalis* disposed over the bed, and between them clumps of dark *Lilies*, tall yellow *Calceolarias*, and masses of a white summer flowering *Chrysanthemum*. Many visitors stop to look at this strange but effective bed, and the large plants of *Plumbago capensis* in the background.

Fuchsias are always a feature in Hyde Park. Besides being extensively used for the beds large specimen plants 4 or 5 feet in height are disposed in groups on the turf, the pots being sunk below the surface. This plan is a good one, and those responsible for the summer decoration of private gardens might utilise *Fuchsias* in a similar manner. Given proper attention as regards watering they flower most profusely, and produce a good effect. The free growing varieties and most profuse bloomers are best adapted for the purpose, and these are conspicuous in Hyde Park. Mrs. Marshall, *Arabella*, *Earl of Beaconsfield*, *Henry Brookes*, and *Tower of London* are the favourite varieties there, some grand specimens of these laden with blooms making an imposing display. Ivy-leaved *Pelargoniums* are also employed with good effect. Large specimens are disposed in beds, also in groups on the turf, the plants being retained in their pots, which are plunged below the surface. *Zonal Pelargoniums* similarly grouped and plunged were also very striking. Treated thus the plants are less vigorous in growth, but certainly more floriferous than when planted out. Many of them are covered with bloom, the trusses, too, being remarkably fine.

Mixed beds are of course numerous. It is pleasing to note this fact, inasmuch as it is a sign that the departure from conventional methods is still progressing. Time, no doubt, will bring further changes. Hardy plants are in some instances interspersed with those of a more tropical nature with good results. White *Carnations* and light coloured *Picotees* blend well with brilliant *Begonias*, and early flowering *Chrysanthemums* make very effective beds. In due course we may see beds of the old crimson *Clove* and other *Carnations*, they being among the best of town flowers. And why not? *Pentstemons*, too, are noticeable in Hyde Park, while clumps of the sweet-scented *Tobacco* (*Nicotiana affinis*) are most imposing. *Violas* naturally are to be found in the bulk of the beds, these being available for mixing with most plants. They grow freely, too, and flower abundantly. The favourite varieties are *Blue Bell*, *Beauty of Chipping Norton*, *Lilacina*, *Mrs. Turner*, *Holyrood*, and *Cliveden Purple*. *Zonal Pelargoniums* are undoubtedly less popular than they were for bedding, but they are still used extensively in Hyde Park. *Henry Jacoby* and the *Rev. F. Atkinson* are exceedingly good, these varieties making a brilliant display with large trusses of bloom. The pale yellow leaved *Pelargonium Robert Fish* is still used largely, and *Cloth of Gold* and *Meteor* are two *Fuchsias* adapted for edging. Among foliage plants *Grevillea robusta* and *Acacia lophantha* figure conspicuously, whilst for edging purposes generally *Lobelias Blue King* and *Snowball* (a good white) are extensively employed. Carpet bedding is still carried out, though on a limited scale compared with former years. The beds devoted to this style of bedding are well planted, simple rather than intricate, and, as they should be, maintained in excellent order.

From the above mentioned series of beds the visitor should cross over to the broad expanse of turf abutting Rotten Row, where beds filled with plants of a sub-tropical nature are most to be found. Here may be noted fine examples of *Scaforthias*, *Chamærops*, and other *Palms*, as well as *Musas*, dotted about the grass, the tubs or pots being plunged below the surface and turfed over. Considering the rough winds which have prevailed this season the huge leaves of the *Musas* are by no means split so much as I have seen them. Large beds well filled with *Ficus elastica*, *Aspidistras*, *Eucalyptus*, *Liliums*, and other plants are

also most effective, the groundwork in many beds being planted with *Violas* of various colours. The dell at the head of the *Serpentine* likewise is devoted to sub-tropical gardening. The scene here is truly tropical on a warm summer's day. At the bottom is a small stream. The banks of this are clad with Ivy and shrubs, from which tower huge *Tree Ferns*, *Palms*, and *Cycads*, presenting to the visitor a miniature representation of a New Zealand forest. Close by a border well filled with *Fuchsias*, *Liliums*, *Snapdragons*, *Marguerites*, and other plants disposed in groups and patches makes a good contrast and naturally attracts much attention.

FINSBURY PARK.

Although small compared with some of the other metropolitan parks this northern lung of London is a popular resort. It is laid out in a picturesque style, and the bedding, both spring and summer, is always good. At the present time many of the beds there are very gay. What might be termed the "flower garden" is situated on the north side of the park, and is divided into two portions, a broad walk running through the centre. In the background on each side is a shrubby border, the front of which is now gay with *Zonal Pelargoniums*, yellow *Calceolarias*, blue *Lobelia*, *Pyrethrum*, and *Ageratum*. Clumps of *Nicotiana affinis* flowering splendidly are conspicuous in these borders. The beds also are most effective. On each side there are three large circular beds planted with *Cannas* and *Nicotiana affinis*, these being edged with pink, scarlet, and *Crystal Palace Gem Pelargoniums*. Carpet bedding is not very extensively practised in this bed, though what is done is excellent. The beds are well planted and the designs effective. Among the mixed beds *Henry Jacoby Pelargonium* shows up well, and appears to be used in preference to tuberous *Begonias*. A few beds are planted with *Begonias*, but they are by no means so extensively employed there as *Pelargoniums*. Plants of the variegated mauve dotted amongst the scarlet and crimson *Pelargoniums* produce a pretty effect, and in several beds *Acer Negundo variegata* is used as centre specimens. A number of small beds filled with *Carnations*, *Begonias*, and *Stocks*, with centre plants of the blue and white forms of *Campanula pyramidalis*, planted alternately, are very pretty, and being close to a wall are much admired.

The borders in Finsbury Park are exceedingly showy. The flowers are seen at their best, the majority of them being planted in bold masses at frequent intervals. Here may be found a large clump of *Godetias*, these splendid masses of *Violas* of various colours. The latter seem to thrive amazingly, and are now literally covered with bloom. Among other varieties *Countess of Kintore* is very conspicuous. Annuals of different kinds are similarly employed, the whole making an imposing display. On one border fine clumps of the old crimson *Clove* are noticeable. The plants apparently grow with great freedom, and are now laden with their large fragrant blooms. Where it does well this is still one of the best of border *Carnations*, and might with advantage be extensively planted. *Sedum Sieboldi*, too, is just coming into flower, great clumps of it being disposed over the borders. *Dahlias* and *Sweet Peas*, the latter grown in clumps, are also showy, and the same may be said of the Sweet-scented *Tobacco* and *Hyacinthus candicans*. Among the shrubs we noted a fine bush of *Olearia Haasti* in full bloom, its pure white blossoms being exceedingly pretty.

Roses deserve a word. It is generally thought that *Roses* will not thrive in or near London. They are, however, an exception in Finsbury Park. Here beds of dwarf *Roses*, chiefly *Hybrid Perpetuals*, may be seen, and to all appearances they flourish in spite of fogs and a sulphuric atmosphere. At present the plants are looking remarkably strong and healthy, producing thick growths 4 or more feet in length. Many are, of course, past their best as regards flowers, though many at the time of my visit were in bloom. As in Hyde Park, there is a decided tendency here to depart from the ordinary bedding out system, and it is quite possible that a few years hence vigorous growing, beautiful hardy plants will take the place of the poor weak coloured foliage things that even yet disfigure many public and private flower gardens.—C. C.

SUMMER BEDDING AT HAMPTON COURT PALACE.

It is early yet to make full reference to the very charming bedding display for the summer, which is already delighting visitors to these very popular gardens. Mr. Graham is the head, but credit also belongs to the energetic foreman, Mr. Barnshaw, who has done his work well. The carpet beds evidence that this form of garden decoration is still as attractive as it is popular with the masses; one, a balloon-pattern bed, will become a great favourite during the autumn. Especially effective are the *Begonias*, and although these are largely employed in mixed beds, two that are planted with them thinly, just a few carpet plants being mixed in, will be very beautiful and do a great deal to help in popularising *Begonias* as bedding plants. The variety *Northiana*, with its myriads of pendent orange-scarlet flowers, is very fine; it cannot be excelled for effectiveness anywhere. This variety makes also a glorious pot plant, especially from two-years-divided tubers. A very pretty effect is produced by two large beds planted with *Flower of Spring Pelargonium* and blue *Violas* topped with *Abutilon Thompsoni*. *Fuchsias* are also prominent alone, also mixed with pink Ivy-leaf *Pelargoniums*, *Violas*, and diverse plants. Double *Zinnias* also will soon be in splendid condition. Such rich-coloured *Pelargoniums* as *H. Jacoby* and *Lord Gifford* make grand masses. I can guarantee to anyone who will visit these gardens during the next few weeks ample repayment in the beautiful attractions the bedding presents.—A. D.



EVENTS OF THE WEEK.—To-day (Thursday, August 11th) there will be Exhibitions at Maidenhead and Taunton Deane. On Friday, the 12th, Shows are to be held at Matlock and Chcadle, both being continued on the following day. On Saturday, the 13th, Barnard Castle Show takes place. On Wednesday, the 17th, the great Exhibitions at Cardiff and Shrewsbury will be held, both being continued on the following day. On Thursday, the 18th, Aberdeen Show opens, continuing on the 19th and 20th. A sale of Orchids will be conducted by Messrs. Protheroe & Morris on Friday, August 12th.

— THE WEATHER IN LONDON.—The weather has been much colder during the last few days. On the 7th rain fell intermittently. The 8th was bright until evening, when more rain fell. On the 9th the weather was dull, and towards evening a cold east wind sprang up, the temperature falling considerably. At the time of going to press the barometer is rising. The weather is dull and the wind easterly, but inclined to be warmer.

— UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.—The usual monthly meeting of this Society took place on Monday evening last at the Caledonian Hotel. Mr. W. Woods was elected Chairman. Two new members were elected. There are three members on the sick list at the present time. It was announced with much pleasure and gratitude that Mr. and Mrs. H. J. Veitch had (through the Treasurer) very kindly and generously presented the Society with a cheque for £100 on the occasion of their silver wedding, the interest of which will be put to the Convalescent Fund.

— GARDENERS' ROYAL BENEVOLENT INSTITUTION.—We have much pleasure in announcing that the Right. Hon. Lord Brassey, K.C.B., has kindly consented to preside at the fifty-third anniversary festival dinner of this important Charity. The dinner, which was unavoidably postponed in consequence of the lamented death of Lady Goldsmid, will take place at the Hôtel Métropole on a date to be fixed in November next. Gentlemen who are interested in the welfare and progress of the Institution are invited to act as Stewards on the occasion, and should communicate with the Secretary (Mr. George J. Ingram) at 50, Parliament Street, London, S.W., who will gladly reply to any inquiries that may be addressed to him. We have also to announce that Mr. Arthur Veitch has been elected a member of the Committee in the place of Mr. John Fraser, who is retiring after many years of zealous service on behalf of the Institution.

— A GOOD CROP OF PLUMS.—Plums are the reverse of plentiful in many, if not most districts, but evidently not at Glewston Court, Herefordshire, according to the following note from Mr. S. T. Wright :—"I am pleased to tell you our Plum crop is enormous; I estimate it at 20 tons per acre. Apples are a heavy crop on some varieties, notably Ecklinville, Worcester Pearmain, Lord Suffield, and King of the Pippins; other kinds below the average. Pears light."

— FROST AND APHIDES.—On Wednesday night, the 3rd inst., we had quite a sharp frost for some four or five hours. On Friday afternoon I found aphides in quantity on the young shoots of my Tea Roses, also on the Chrysanthemums. I quite thought that I was going to boast a record as regards the aphid nuisance this year. The old idea of checked sap becoming sweet and palatable to this pest receives one more mark in confirmation of the theory.—J. A. W., *Norfolk*.

— ANNUALS *versus* BEDDING PLANTS.—At the last meeting of the Wakefield Paxton Society, held at the Saw Hotel, a paper was given on "Best Hardy Annuals: How to Grow Them" by Mr. W. Wardman, gardener to Councillor Roberts of Wakefield. The paper proved exceedingly interesting, the lecturer pointing out that by means of careful selection of the best annuals the grower may get a display in the garden equal to bedding plants and at a much less cost, as a greater variety both in form and colour is found amongst annuals than in bedding plants. There was a beautiful display of annuals on the table. A very hearty vote of thanks was accorded to the essayist and exhibitors of flowers.

— THE OPENING OF GRIMSTON PARK.—The opening of Grimston Park to the public in aid of the Gardeners' Orphan Fund and the Gardeners' Royal Benevolent Institution, by permission of J. Fielden, Esq., will take place on Wednesday, August 17th. The public will have access to the beautiful gardens and grounds, and a cricket match will be played.

— INTERNATIONAL EXHIBITION IN 1900.—It is stated that M. Carnot, as President of the French Republic, has signed a decree deciding upon the opening of a great Exhibition at Paris in 1900, so as to make a good start with the twentieth century. This is certainly taking time by the forelock, and providing us with plenty of time to prepare material for the horticultural department.

— THE JULY RAINFALL IN SUSSEX.—The total rainfall at Cuckfield, Sussex, for July was 2.57 inches, which is a little more than the average. The heaviest fall was 0.52 on the 5th. Rain fell on ten days. Maximum temperature, 76° on the 3rd; minimum, 46° on the 1st. Mean maximum, 68°; mean minimum, 51.2°. Mean temperature, 59.6°. Partial shade readings, 2° below the average.—R. I.

— JULY WEATHER IN HERTS.—During the past month the weather was of a very pleasant character although somewhat cool. There was a fair amount of sunshine and a good rainfall. A heavy thunderstorm occurred on the 16th, when 1.50 of rain was registered in three hours. The nights for the most part were very cold, as the wind was generally in the northern quarter. Rain fell on seven days during the month. The maximum in any twenty-four hours was 1.53 on the 16th, minimum 0.07 on the 17th. Total for the whole month 4.02 against 2.48 in July, 1891.—E. WALLIS, *The Gardens, Hamels Park*.

— DISQUALIFYING FRUIT.—"W. H. M." writes:—"I fully agree with Mr. J. McIndoe that (in the absence of the contrary in the schedule) he was fully justified in exhibiting the two Pine Apples as separate dishes, for which he was disqualified. There is no doubt that committees forming schedules ought to be more definite in quoting the conditions, which would prevent any unpleasantness through an exhibitor being disqualified. In any case the judges ought to have fully considered the words in the schedule, and doing so, I fail to see on what basis they formed their decision."

— SALVIA PATENS.—This lovely old plant is not met with now as much as formerly. Though not hardy it makes a fine bedding plant throughout the summer and autumn. The large dark green leaves generally tinged with purple, serrated and hairy, are themselves very pretty; but the full glory of the plants is seen when they are covered with their elongated spikes of bright blue flowers in large clumps or circular beds. There seem to be several varieties of *S. patens* differing from each other in the colour of the leaves or flowers, the latter in some instances having quite a purple shade. A round bed is looking splendid in the R.H.S. Gardens, Chiswick. Light soil suits the plants provided they can be cared for in the matter of moisture.—C. K.

— FRUIT GROWING IN AUSTRALIA.—The Earl of Jersey, Governor of New South Wales, has paid a visit of inspection to the Australian Irrigation Settlements, situated in the neighbouring colonies of Victoria and South Australia, where some 5000 settlers have become located during the last four or five years for the purpose of engaging in the cultivation of fruit, their plantations being rendered highly productive by means of irrigating them with the fertilising waters of the River Murray. The Governor and party were driven round the settlements, calling upon Lord Ranfurly, Captain Aylmer, Mr. W. B. Chaffey, and other prominent settlers, and expressed astonishment at the magnitude of the works and the horticultural progress which had been made.

— THE YELLOW CALLAS.—A few weeks ago "Boscobel" stated explicitly in the *Journal of Horticulture* that *Calla Elliottiana* was a hybrid between *C. æthiopica* and *C. hastata*, but on being challenged to give his authority for the statement had to confess that it was only an inference. The fruit of his precise, but, as it appears, most ill-founded assertion, is to be seen in the notes in continental papers, wherein the parentage suggested is accepted in good faith. It is in this manner that information of doubtful accuracy is disseminated, and it is very much to be regretted that explicit statements should be made on other than reliable information. Perhaps "Boscobel" will in the future exercise greater care in his remarks.—E. H. M.

— DEVON AND EXETER HORTICULTURAL SOCIETY. — The autumn Show of this Society has been fixed for November 11th, and is to be held at Exeter.

— MR. W. R. WILLIAMS, the able gardener at Seymour Court, Maidenhead, has been appointed gardener to John F. Hall, Esq., Sharecombe, Wells, Somerset, where he will have scope for the exercise of his taste and skill.

— CONFERENCE OF GARDENERS' ASSOCIATIONS AT TUNBRIDGE WELLS.—A full report of the proceedings at the Conference of Gardeners' Associations held at Tunbridge Wells on July 6th has been issued, price 3d., and those interested may procure copies from the Secretary, Mr. D. G. Cornwell, "Courier" Office, Tunbridge Wells.

— CERCIS SILICUASTRUM.—May I state that I am anxious to obtain a few pods of the Judas Tree (*Cercis silicuastrum*), of which I do not know any specimens accessible hereabout. Perhaps some readers of the Journal may be able and obliging enough to let me have an example of these.—JOHN R. S. CLIFFORD, *Gravesend*. [We shall be glad if our correspondent and esteemed coadjutor succeeds in obtaining the pods in question.]

— CASSIA CORYMBOSA.—Introduced from the West Indies by a Lambeth nurseryman as long ago as 1796, this plant at the present time is seldom seen in any other than a botanic garden. Where grown in pots it flowers sparingly. This note is written with the object of bringing this plant under notice, as in large gardens, where variety is wanted, a bed of it would be a novelty and a pleasant surprise. It is no trouble to propagate either from seeds or cuttings, and is not particular as to soil. At the Royal Horticultural Society's Gardens at Chiswick a circular bed is planted early every summer, and the plants kept dwarf. They quickly form a mass of pretty green pinnate leaves, from the axils of which, towards the end of July, the corymbs of bright golden yellow flowers are produced in abundance. Many large establishments might produce fine beds of this Senna, provided it is planted in a sheltered position.—C. K.

— WILD FLOWERS.—I was interested in the description and figure of *Linaria Peloria* (page 85). It grew wild hereabout at one time, and has grown for thirty years in a neglected state at the root of a Pear tree. I enclose a flower spike, and would like to know if it is the same as the one referred to. There is another wild flower with foliage not unlike the above, its flowers being like miniature *Antirrhinums*, yellowish in colour and pretty; but it is a noxious weed. Can you name it? I also send a prettily formed blue flower, attractive to bees. It resembles the Prince of Wales' Feathers. Please name it too. I have a continuous flowering Ox-eye Daisy or *Marguerite*, the blooms being 3 inches across. It makes a pretty border plant, each flower lasting a month. I also have *Veronica repens* with three faint streaks of blue on the petals, different from the one cultivated. Mine grows wild near here.—W. T., *Blantyre*. [The *Linaria Peloria* spike is the same as the one figured on page 85. The miniature *Antirrhinum*-like plant is *Linaria vulgaris*, a native and progenitor of the variety *Peloria*. The blue flower is *Phacelia tanacetifolia*, a Californian annual.]

— THE NATIONAL AMATEUR GARDENERS' ASSOCIATION. — A party numbering nearly fifty members of this Association had their usual half-day's outing in Kent this season. They visited Messrs. H. Cannell & Sons' nurseries at Swanley and Eynsford. At the Home of Flowers, the 150 feet house filled with Carnations and Cannas was the chief attraction; but the most remarkable object was a fine bloom of *Stapelia grandiflora*. This remarkable Cactus-like plant produces flowers resembling the Starfish, measuring 7 inches across, and covered with soft downy hair half an inch long; its colour is somewhat like the dull rosy cheek Apple. Its odour is exactly opposite to the Rose and Carnation, and somewhat resembles tainted meat, attracting numerous blow flies. They deposit eggs in the centre of the flower, and in a few hours live maggots are distinctly seen crawling about, evidently after something agreeable, which the flower does not supply. All, particularly the ladies, were astonished, so much so that it was said it looked uncommonly like a mistake in Nature. It was evident the flies had made a mistake. After tea at the Lullingstone Castle Hotel Mr. Cannell conducted the party over his extensive grounds at Eynsford. Here the acres of *Violas* and Double Stocks seemed to astonish them, and after loading themselves with flowers they continued their journey among the annuals, vegetables, and ripening fields of corn; returning to the station at eight o'clock for home, apparently delighted with their outing in Kent.

— ROSES AT THE MANSION HOUSE.—It will be remembered that reference was recently made in the *Journal* to a Rose Show and fête held at the Mansion House in aid of the Royal Hospital for Women and Children, Waterloo Bridge Road, London. We are now able to announce that as a result the Lady Mayoress has been able to hand over to Mr. Edwin Lawrence, Chairman, and Mr. R. G. Kestin, Secretary, a cheque for £1028 9s. 9d., the net profits. This is the noblest feature of the past Rose season.

— FILMY FERNS AT KEW.—A new house for Filmy Ferns has just been erected on the north side of the large Fernery (No. 2), and the plants removed from the old house (No. 3), which is to be replaced by one more suitably adapted for the cultivation of temperate Ferns. The Filmy Fern house is 50 feet by 14 feet, with a central path and two cases running the full length of the house. The Cooper-Forster collection is now incorporated with the Kew plants, the whole forming an exceptionally rich collection of these delicate little Ferns.

— A BEAUTIFUL LANTANA.—A short time ago I observed a *Lantana* employed as an edging to a flower bed in Messrs. Veitch and Sons' Nursery at Chelsea that struck me as being particularly beautiful and useful. It only grows 4 to 6 inches high, and is covered with brilliant yellow flower heads. It comes into bloom very early, and flowers continuously until October. Its name is *Drap d'Or*. A plant like this would be most valuable in bedding arrangements, and I was not surprised to hear that many who see it order it at once.—P.

— THE GAMMA AND SMALL ERMINE MOTHS.—Not long ago I noted the abundance of the Gamma moth this season. As yet, however, the caterpillars have not been abundant, but rather the other way—i.e., scarcer than usual. I shall be curious to note if they are reported as numerous elsewhere. It may have been that many perished when young from some cause, or possibly the eggs have remained unhatched as yet. One of our familiar pests is very unpleasantly common this year in our district (*Gravesend*), the Small Ermine (*Yponomeuta padella*).—J. R. S. C.

— SUMMARY OF METEOROLOGICAL OBSERVATIONS AT HODSOCK PRIORY, WORKSOP, NOTTS, IN JULY.—Mean temperature of the month, 56.0°. Maximum on the 3rd, 81.0°; minimum on the 25th, 38.7°. Maximum in the sun on the 3rd, 136.3°; minimum on the grass on the 21st, 32.0°. Mean temperature of the air at 9 A.M., 58.1°. Mean temperature of the soil 1 foot deep, 57.9°. Total duration of sunshine in the month 112 hours, or 22 per cent. of possible duration; six sunless days. Total rainfall, 2.14 inches; rain fell on eleven days. Average velocity of wind, 8.0 miles per hour; the velocity exceeded 400 miles on three days, and fell short of 100 miles on seven days. Approximate average for July:—Mean temperature, 60.7°; sunshine 160 hours; rainfall, 2.42 inches. The coldest July for at least seventeen years, and the dullest but one (1888) of the last eleven years. A temperature of 70° was only reached twice. Sunshine is very much wanted.—J. MALLENDER.

— CHANGES IN THE KEW STAFF.—The "Kew Bulletin" for July and August contains a very complete article, with plate, on Sugar-cane borers in the West Indies. An announcement is also made of several changes in the staff. Mr. William Truelove retired from the service of the Royal Gardens on April 30th last, after serving twenty-six years as foreman of the arboretum, a position which he filled with great credit to himself and satisfaction to his superior officers. Before coming to Kew Mr. Truelove had charge of the then famous Bieton arboretum, and his selection to fill the post from which he has retired has been justified in every way. From small beginnings—the number of ligneous plants cultivated in the open air at Kew was comparatively very small twenty-six years ago—the Kew arboretum has developed to a considerable extent; at the present moment it contains about 3000 species and named varieties—excluding garden varieties of such plants as Roses, Rhododendrons, Hibiscus, &c. The Supcrannuation Act of 1887 having practically abolished the pensions to which men in Mr. Truelove's position were formerly able to look forward, he was on retirement only entitled strictly to the gratuity of £47 10s. which the Treasury awarded him. But in consideration of his exceptional services the First Commissioner was pleased to make a special application on Mr. Truelove's behalf to the First Lord of the Treasury. This obtained for him a further grant, though it was expressly stipulated that this was not to be regarded as a precedent for the future. The Board recorded the award in the following minute:—"In dispensing with his services the

Board desire to record their appreciation of the diligence and skill which he has shown in the discharge of his duties during the period that he has been in their employ. It is to a large extent in recognition of this that the First Commissioner recommended, and that the First Lord of the Treasury has granted, an additional gratuity of £120 from the Special Service Fund." Mr. W. J. Bean succeeds Mr. True-love as foreman in the arboretum. Mr. Bean first entered the Kew service from the gardens of Belvoir Castle on April 2nd, 1883. He was not long before rising to the rank of sub-foreman, and on the retirement of Mr. Binder in 1888, Mr. Bean became foreman of the temperate house. Mr. Thomas Jones fills the post of foreman of the temperate house vacated by Mr. Bean. Mr. Jones came to Kew as gardener on January 2nd, 1888, from the nurseries of Messrs. James Dickson & Sons, of Chester. In July, 1889, he was promoted sub-foreman in the Palm house.

— FRENCH HORTICULTURE AT THE WORLD'S FAIR.—Our neighbours are going to do themselves great credit in horticulture at the Chicago World's Fair next year, it would appear. A cablegram has been received from the French Commission asking that it be allowed to do, and bear the expense of, the "whole decoration of the spaces surrounding the Horticultural and the Woman's buildings." This generous offer, doubtless, will be accepted if it does not interfere with plans too far advanced to be changed. The French are world-renowned as artistic landscape gardeners, and it is believed they would hardly have made the offer referred to unless they intend to make a display of surpassing beauty. The Commission asked also for 60,000 square feet for the French horticultural exhibit. British horticulturists must look to their laurels; but there is little doubt that if a combined effort was made they would not be eclipsed.

— 60,000 GLADIOLI.—M. Hooibrenk, the well-known Dutch florist, an old man of eighty-four years, who has for a long time been settled at Vienna, has organised a unique Exhibition at the village of Hietzing, near the Imperial Castle of Schönbrunn. Our (*Daily News*) Vienna correspondent sends us a description of this remarkable collection of 60,000 specimens of the Gladiolus. M. Hooibrenk had them cultivated and reared out of the simple original Gladiolus which was imported from the Cape by the Bohemian florist and traveller, Prince Salm. The flowers show a tropical richness and abundance of colours. No one specimen resembles the other, and the colours vary from the white of the Lily to the red of the Pomegranate, and between these extremes are to be seen many beautiful yellow, brown, and violet tints. The various colours are also combined on one specimen. While the original flower is but small, the skilful Dutch horticulturist has by forcing, produced a flower four times the size of the Lily.

— CROSS-FERTILISATION OF FRUIT.—At a meeting of the fruit-growers of Ontario two Apples were exhibited which were the result of careful cross-fertilisation by Mr. P. C. Dempsey, between the Golden Russet and the Northern Spy. The first of these was specially commended by the Fruit Committee for appearance, solidity, flavour, and keeping quality. It seems an almost perfect Apple for export, not too large, of a clear dark red colour, such as the foreign market demands, and its very solid flesh enables it to be packed firmly and carried well. The other is rather later, and does not reach its best quality till after the New Year. It is larger, and quite as well coloured and beautiful. Both of these Apples have very small cores. The fact that they are not chance seedlings, but have been produced by careful selection from parents of known qualities, is certainly an encouragement for those who are devoting themselves in a studious way to the production of new fruits by careful breeding.—(*Garden and Forest*.)

— POTATOES AT EARL'S COURT.—The space at your disposal doubtless prevented a very wide reference to the merits of the admirable vegetables staged at the cottagers' exhibition at Earl's Court on Bank Holiday. I would trespass upon that space this week just so far as to draw attention to the excellence of the Potatoes, which were largely shown in several classes, not only because of the good variety found, but also because of the high quality of the best examples, quite reminding those with memories of the admirable exhibits formerly seen at the International Potato Exhibitions. In the class for four dishes white varieties had the pre-eminence; the best four were Windsor Castle, one of Messrs. Sutton & Sons' fine rounds, Sutton's Seedling, Chancellor, and White Beauty of Hebron. In the second four were Schoolmaster, Sutton's 21, International, and Abundance, the latter, being unusually long in form, shown as a kidney. In the single dish

classes the best four white kidneys in the order of merit were International, Satisfaction, also long in form; White Rose, and Midsummer Kidney. Of white rounds in the same order came Sutton's Seedling, the same second, Daniel's Defiance, and London Hero. Of coloured kidneys Sutton's Ruby, very handsome, though not large; Beauty of Hebron, Mr. Bresee, and Prizetaker, whilst of coloured rounds the sorts were Reading Russet, Pink Perfection, Reading Russet again, and General Gordon, a handsome purple striped variety. Here is a record of twenty distinct varieties, all of great excellence, and in no case big in sample, no less than eight of which were sent out from Reading by Messrs. Sutton & Sons.—A. D.

— WHAT JAPANESE GARDENERS DO.—"The art of the Japanese gardener," writes Sir Edwin Arnold, "had turned our little plot of a couple of acres into the appearance of a large and various pleasure, with miniature hills—from which you could see the towering snows of Fuji San—fish ponds, rockworks, trellised arbours, and clumps of flowers and bushes, which gave us an unbroken succession of floral wealth. Scattered about the grounds were stone lamps called *Isbi dōrō*, and grotesque demons, and quaint water cisterns in stone with Chinese inscriptions. Around these first came into bloom, defying snow and frost, the beautiful red and white and striped Camellias. When these had fallen the white and pink and rose-red plum flowers filled the eye with beauty. Afterward the Azaleas blazed, like burning bushes, all round the Lotus pond; and these were followed by a delicious outburst of pale rose tinted Cherry blossoms, making an avenue of beauty and glory all the way from the Shinto temple at our gate to the front door, where were suspended the little, indispensable, but useless fire engine and the bronze gong on which visitors beat with a little wooden hammer to announce their arrival. The Wistaria and a second crop of Camellias, and then some red and yellow Roses, took up the running, and the Maple bushes came out resplendent with blood-red leaves; after which there were purple Irises and Callas flowering by the fish pond, with orange and red Lilies brighter than the gold fish swimming in it, and the lawn became covered with a pretty little flower called the Neji-bana, the pink buds of which, growing diagonally and reaching round to get the sunlight, twisted the stem into the shape of a corkscrew. Thus, along with the sprays of the Firs and Loquats and ornamental shrubs, our gardener—whom we christened the 'Ace of Spades,' out of 'Alice through the Looking-glass,' and who wore a blue coat with white dragons upon it—was never destitute of delightful material wherewith to exercise the high art of decorating our rooms after the great æsthetic Enshin fashion."

— MAGNOLIA WATSONI AND THE ENGLISH BOTANISTS.—Under this heading Mr. W. Falconer writes in the "American Florist," "Apropos of my note about this Magnolia, June 9th, page 1009, the venerable Samuel B. Parsons of the Kissena Nurseries, writes me:—'What is the matter with the English botanists? Are they never willing to give Americans credit? Our Magnolia parviflora named in 1891 by Sir Jos. Hooker as Watsoni was introduced by us into this country through the enterprise of Thos. Hogg, and named by us in 1875. If the name is changed from that we gave it, it should be by us, and we should call it after Mr. Hogg. The English cannot plead ignorance, for we advertised and sold it ten years before it appeared in the Paris gardens, and it was well known here when they named it at Kew.' The Committee on nomenclature of the S. A. F. in their report last fall covered this case exactly. See Proceedings of Seventh Convention ('91), page 91. 'In the case of new species of plants, the first published botanical name takes precedence, but this publication must be technical and made in a recognised botanical or horticultural periodical or work, and not in a trade catalogue.' Messrs. Parsons' Magnolia was named in their trade catalogue twelve years ago, and the name was kept up by them ever since in their catalogue, but as the plant was a species and not a garden variety, the botanists cared not a crack of their fingers for Messrs. Parsons' name or catalogue, and named it just as they pleased, and their name will stand. This is pretty galling, but we cannot help it. We know the law, and if we will profit by it we must take timely advantage of it. When at Professor Sargent's the other day I called his attention to this same Magnolia Watsoni case, and he answered, 'Well, I agree with you, I don't see the justice of naming it Watsoni.' The English botanists, or European botanists anywhere, don't give us any more credit than we deserve. Our only hope, therefore, is to fight our own battles and name our own plants, and that, too, before they cross the Atlantic, and publish these names properly, then the Europeans can rename them if they wish to our name being the original one will stand for ever in spite of theirs."

TRADESCANTIA REGINA.

THE useful character and general acceptability of *Tradescantia zebrina* and other members of the genus should command attention for the large and handsome kinds that have been exhibited this year by L'Horticulture Internationale, and which may be classed as great improvements on the old species. Two, *T. Regina* and *T. superba*, have received first-class certificates from the Royal Horticultural Society this year. The former, which fig. 18 represents, exhibits remarkably attractive leaf-colouring. It is a Peruvian species of great beauty, with much bolder and more beautiful foliage than that of *T. zebrina*. The leaves are lanceolate, 6 to 7 inches long. The centre is dark green lightly flecked with greyish white. Two broad flakes of the same shade extend along each side of the central band from base to tip, and the edges of the leaf are of the same deep green hue as the centre; the under surface

with a grand promise of seeds for next year. One patch of minor *Convolvulus* yielded the deepest blue, and not far off were Marigolds of glorious colouring. The *Calendulas* were vast, of the brightest yellow and orange, almost unequalled for massing.

The Sweet Peas promised this year to make up for last year's disastrous failures, Imperial Blue, a lovely red, white in abundance, and the usual mixed sort were all represented. It must be admitted there are other flowers at this season worth looking at besides Roses. Annuals also have their excellencies. I could mention many others were their names likely to be admitted. I must claim space for three, now at the very height of glory: Summer Chrysanthemums, Nasturtiums, and Godetias. The good monks to whose domain the Suttons in part have succeeded—and they are very loyal to the Abbey in Reading—(The Abbey arms with the town arms are on the Palmer Park gateway; the Abbey Hall is a most admirable Evangelistic place of worship; the Archaeological Society, again, rejoices in the Abbey three-esclop-shells badge and holds its meetings in the Abbey gateway house by favour of



FIG. 18.—TRADESCANTIA REGINA.

is purple. Added beauty is given to the foliage by the rich rosy mauve colouring of the young leaves. This is a notable addition to the list of plants suitable for surface covering.

SUTTON'S SEED TRIAL GROUND.

TRAVELLERS at this season approaching Reading by the G.W.R. may be seen deeply interested by the view on their left hand; if by the S.E.R., it is true they have the noble Palmer's Park on their left, but still more interesting is the sight on their right. The trial grounds are between the two railways, and the glorious beauty of the vast beds of annuals as massed there must be seen to be realised. The result is a Turkey carpet of more than gigantic size and of more than gorgeous colours. Art is a very long way off being a copier of Nature. These beds of flowers are well worthy of a closer inspection. They are always open to the public with a generous hospitality, the seventy acres of trial ground running up from the Palmer Park to the very edge of the woods of Sonning.

The entrance is up a wide path bordered with various kinds of grasses, and then presently begin the bright patches to be taken in detail. The Shirley Poppies were nearly over and showed endless heads

the Corporation.) I was saying, those worthy Benedictines, how they would wonder at the two railways and admire the grounds if only once again they could revisit their former property, especially if they could see the last three seed plots I have space to mention.

The advance in Nasturtiums of late is really wonderful. Tall Fairy Queen is an exquisite variety with profuse flowers of the most lovely white, yellow, and the very palest shadings of red; then come grand masses of King Theodore bronzed almost into blackness, and Empress of India, fiery red with its darkest green leaf; while the mixed Tom Thumb varieties show nearly every colour from palest yellow to darkest orange, many beautifully striped, almost all shades of colour, in fact, except that blue which even the queen of all flowers has never attained to. The Summer Chrysanthemums are now at their very best, and of amazing variety, Cloth of Gold single, double white, golden bronze, Picotee edged, vast masses of each; it is utterly impossible to give an idea of their loveliness. And then what eclipses all else is the large portion of ground which is now carpeted with masses of Godetia. Its exceeding beauty was a new revelation to me.

Imagine several acres of the most perfect Azaleas, but exhibiting far more colours than they can attempt, and not on bushes, but 1 foot high, and so thick that the leaves can hardly be seen for the flowers. And such flowers! Satin Rose, of the softest and brightest Duchess of

Albany, a pure white, very large and resplendent; and then the purple, and claret coloured, and other varieties! and, by way of climax, as one of those employed there informed me, a packet to be had for the sum of 3d., with seed in it enough to make gloriously gay their own appointed side of the garden. I am almost persuaded that in August, at any rate, Roses have rivals.—A. C.

ROYAL HORTICULTURAL SOCIETY.

AUGUST 9TH.

THE Drill Hall was only half filled on this occasion, but if the exhibits were not very extensive they were fairly diversified, and formed a display by no means devoid of interest.

FRUIT COMMITTEE.—Present: Philip Crowley, Esq., in the chair; and Rev. W. Wilks, with Messrs. H. J. Pearson, T. Francis Rivers, G. Bunyard, J. Cheal, W. Bates, A. Dean, H. Balderson, G. W. Cummins, G. Reynolds, G. Wythes, G. Sage, J. Taber, and J. Wright.

Tomatoes, Melons, Figs, Peaches, and Vegetable Marrows were brought chiefly under the notice of the Committee; but the most noteworthy fruits were a dish of Cherries and Plums from Sawbridgeworth. A. W. South, Esq., Measden House, Measden (gardener, Mr. C. Payne), sent fruits of a new and very neat seedling Tomato, resembling Conference (vote of thanks). Mr. Leach, The Gardens, Albury Park, sent large fruits of Lady Bird Tomato, of which he exhibited clusters of small fruits in the winter. The fruits, though fine, were over-ripe. A dozen fruits of Swanson's Eclipse Tomato were sent by Messrs. J. R. Pearson and Sons, Chilwell. They were very globular and beautifully shaped, but apparently over-ripe, and the quality consequently was not at its best (vote of thanks). W. M. Bullivant, Esq. (gardener, Mr. T. Crosswell), sent a good dish of Tomatoes (vote of thanks).

Mr. Crosswell sent four Melons closely and splendidly netted, quite distinct in appearance, but not properly ripened. This is a Melon of promise, and the Committee desired to see it again. Mr. J. Barkham, Haver Street, Ryde, sent a Melon, but distinctly over-ripe. T. Statter, Esq., Stand Hall, Whitefield, Manchester (gardener, Mr. R. Johnson), sent a fine-looking Melon, but quite deficient in quality. Mr. G. Wythes sent from Syon House, seedling green-flesh Melons of a very peculiar flavour that did not seem to be highly appreciated. Messrs. Hender and Sons, Plymouth, sent a dish of Hartley Green Gage Gooseberries. They were too ripe for testing the flavour, which was, however, not superior to some other of the best dessert varieties. The variety is said to be a very abundant bearer. Mr. Leach sent a dish of Runner Beans with long pods (vote of thanks).

Mr. T. F. Rivers sent a dish of Emperor Francis Cherry; fruit pale red, of enormous size, and extremely rich in flavour. The fruits had been grown on a tree in a pot, and a cultural commendation was unanimously awarded. Mr. Rivers also showed fruit of the Late Transparent Gage Plum. The flesh is very firm and the flavour delicious. It ripens about the end of August. For growing in warmer climes where it would ripen sooner, it is thought it would prove of great value for drying. Persons who wish to taste Plums in perfection should grow the Late Transparent Gage. A first class certificate was unanimously awarded, as well as to the Emperor Francis Cherry, and both well deserved the honour.

Several dishes of Figs were brought from Chiswick, including Bourjasotte Grise, medium size, roundish, of excellent quality, and the tree is an abundant bearer. Nebian, fruit large, green, extremely rich, like a sweetmeat. Monaco Bianco, green, roundish, and remarkably rich in flavour. Gourand Noir, purplish black, of good size and excellent quality. Violette Sepor (Veitch), yellowish, of good size and splendid flavour. Grosse Violette de Bordeaux, small to medium, purple, rich, and hangs long when ripe. Large Black Dawro, large but of only fair quality. Madeline, yellowish, small and very free bearer, fruit refreshing but rather watery.

First class certificates were awarded to Bourjasotte Grise, Nebian, Monaco Bianco, Gourand Noir, and Violette Sepor. Leaves and fruit, were exhibited attacked by the Continental Phytopsis ficus, its destructiveness being apparent in the arrested growth.

Messrs. W. W. Johnson & Son, Boston, sent thirteen varieties of Peas, good in size and colour (a cultural commendation was awarded). Messrs. Sutton & Sons, Reading, exhibited large baskets of three varieties of Peas. Sutton's Perfection, 3 feet, dark green, nine and ten peas in a pod; New Marrowfat, 4 feet, splendid dark pods, nine peas; and Windsor Castle, 3 feet, clear green, fine pods. These Peas had been grown in a field for market, without stakes, and were far in advance of the best samples usually offered for sale.

Messrs. D. Burton & Son, Bexley Heath, sent four boxes of Peaches and the same number of Nectarines, as packed for market. They were very fine, and a small silver medal was awarded. Vegetable Marrows in many varieties were exhibited from Chiswick.

FLORAL COMMITTEE.—Present: W. Marshall, Esq., in the chair; Messrs. R. Dean, H. Herbst, H. B. May, R. B. Lowe, W. C. Leach, C. E. Pearson, G. Phippen, James Walker, J. T. Bennett-Poë, T. Baines, H. Cannell, R. Owen, B. Wynne, H. Turner, G. Paul, T. W. Girdlestone, and G. Gordon.

Mr. Thos. S. Ware, Hale Farm Nurseries, Tottenham, exhibited a collection of Carnations in bunches with their own foliage, which were extremely attractive, and well showed the effectiveness of these charming flowers for cutting. Gloire de Naney, Ketton Rose, Germania, Mrs. Frank Watts, Mrs. Reynolds Hole, and the Picotee Redbraes were

amongst the most prominent. A silver Banksian medal was awarded. Mr. Cuas. Turner, Royal Nurseries, Slough, had three stands of Carnations and Picotees. King of Scarlets was noteworthy for smoothness of petal and great size of bloom, but was lacking in perfume. A yellow ground Picotee named Remembrance was very attractive, and so was the deep rose self Salamander. These and several others received awards of merit; see below. Mr. W. C. Leach, Albury Park Gardens, Guildford, exhibited a large-flowered crimson and fragrant Mignonette named Her Majesty; also double Stocks and Zinnias. The latter represented an excellent strain, but the colours of most of the flowers were faded. A vote of thanks was accorded. A beautiful collection of Sweet Peas came from the Society's garden at Chiswick, the varieties being extremely beautiful. They comprised Dorothy Tennant, Boratton, Ignea, The Queen, The Bride, Countess of Radnor, Waverley, Indigo King, Princess of Wales, Primrose, Queen of England, Orange Prince, Her Majesty (a beautiful rose), Imperial Blue, Mrs. Eckford, Apple Blossom, Delight, Empress of India, Cardinal, Splendour, Lemon Queen, Mrs. Gladstone, and Jeannie Lea. Mr. F. Bull, Wormingsford, Colchester, exhibited a box of seedling Carnations; Mr. W. H. Divers, Ketton Hall Gardens, Stamford, had a bunch of his beautiful variety Ketton Rose; and Mr. R. Greenfield, Leamington, sent border Carnations Lord Randolph Churchill and The Speaker. Mr. Wells, Earlswood, exhibited a Chrysanthemum named Rose Wells. It was about a foot high, and had four expanded flowers of a rosy lilac shade, as well as several buds.

Mr. R. Dean, Ealing, sent Antirrhinums George Findlay (award of merit) and Brilliant, Lathyrus delicata, and Sempervivum Boissieri. A box of new Roses came from Messrs. Paul & Son, Cheshunt, comprising H.P.'s T. B. Haywood, Chas. Gater, and J. D. Pawle, Bourbon Mrs. Paul, Noisette Gustave Régis, and Tea Waban. Mr. A. Waterer, Woking, exhibited a Liliun named Parkmani, somewhat resembling auratum, but the petals more loosely disposed and more reflexed, deeply suffused with rosy crimson, and marked with purple patches. It is rich in colour. A flower stem was shown inserted in a pot of sand. H. Warburton, Esq., Claverhouse, Ascot, exhibited a Begonia named Ethel Louise, with handsome foliage, but nothing noteworthy in the inflorescence. Mr. P. McArthur, Maida Vale, exhibited Aloe Gortonia in bloom. Mr. G. Clarke sent a variety of Lathyrus latifolius with lilac wings and rich rose keel. Mr. Edmund Holman, Bishops Waltham, had a double Tuberous Begonia with bright salmon red flowers and white centre, unnamed. Mr. T. Jannoch, Dersingham, King's Lynn, received a cultural commendation for a beautiful box of Lilies of the Valley. These were very noteworthy considering the time of year. Messrs. J. Veitch & Sons exhibited a box of their Rhododendron Javanico-Jasminiflorum hybrids, a class of great beauty and value; a large box of Streptocarpus from seed sown in January of this year—a delightful display. They also had Robinia Pseud-Acacia semperflorens, Eucryphia pinnatifolia, Pavia macrostachya, and Vallota purpurea amabilis. A silver Banksian medal was recommended. Mr. Wythes, Syon House Gardens, received a similar honour for a magnificent group of Campanula pyramidalis, blue and white, which he grows very finely. C. p. compacta received an award of merit.

Messrs. Cannell & Sons, Swanley, exhibited a collection of tuberous Begonias, arranged in bunches, with Fern and Asparagus, also Cactus Dahlias Robert Cannell, Mrs. Keith (see awards below), and Cannell's Favourite; and several Stapelias. The Begonias were extremely attractive, and the plan of arranging them should be more generally adopted (a silver Banksian medal was awarded).

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair), Messrs. J. O'Brien, H. M. Pollett, T. W. Bond, E. Hill, H. Ballantine, W. H. White, F. Sander, and Dr. Masters.

Messrs. Hugh Low & Co., Upper Clapton, had some beautiful pieces of Vanda cerulea, also the chaste little Angræcum articulatum, Cypripedium leucocentrum, and Trichopilia rostrata. Messrs. Sander & Co., St. Albans, had a small but varied and interesting group, comprising Cattleyas Gaskelliana, gigas, and Schofieldiana; Odontoglossum Schröterianum; Cypripediums Macfarlanei, Doliare, Doris, pectinatum, radiosum Sander's variety, and Ashburtoniae expansum; Vanda Sanderiana, Saccolabium Hendersoni, Calanthe Sanderiana (see below), Lælia Oweniana (see below), and others; a silver Banksian medal was awarded.

T. Statter, Esq., Stand Hall, Whitefield, Manchester (gardener, Mr. Johnson), sent Lælia elegans Bluntii, a richly coloured variety, also L. Amesiana and L. crispa superba (see below). Messrs. Charlesworth, Shuttleworth & Co. sent Bifrenaria Charlesworthi, Zygopetalum Warlesianum, Oncidium maeranthum nanum (see below), Anguloa Turneri, Miltonia Morelliana atro-rubens, and Oncidium intermedium. C. L. N. Ingram, Esq., Elstead House, Godalming (gardener, Mr. T. W. Bond), sent Lælio-Cattleya Ingrami (see below) and Cypripedium Elsteadiana (so-called, though obviously the name should be elsteadense) F. Wigan, Esq., Clare Lawn, East Sheen (gardener, Mr. W. H. Young) exhibited Lycaste tetragona and Angræcum caudatum. Messrs. J. Veitch & Sons sent Cypripedium Astræa; J. M. Barton, Esq., Cypripedium Maynardi; and M. Godefroy Lebeuf, 5, Rue d'Edinbourg, Paris, C. caudatum Luxembourg variety (see below).

CERTIFICATES AND AWARDS.

Cypripedium caudatum Luxembourg variety (M. Godefroy-Lebeuf).—A very beautiful and distinct variety, remarkable for the colouring of the dorsal and lower sepals. These are rich buttery yellow, paler towards the base, and veined with green. The dorsal sepal arches over, exposing the

deep yellow of the back. It is narrow and recurved, the two edges meeting at the back. The pouch is dull green, dotted on the edges of the throat with purple, the interior pure white. The tails are long and twisted, dull purple in hue (first-class certificate).

Lælio-Cattleya Ingrami (C. L. N. Ingram, Esq.).—A hybrid between *Lælia pumila* Dayana and *Cattleya aurea*, the former being the pollen parent. It is quite a miniature Orchid, not exceeding 6 to 8 inches high. The leaves are bluntly lanceolate. The solitary flower was very beautiful and distinct in respect to colour. The sepals and petals are rosy mauve, the latter being much broader than the former, and wavy in outline. The lip is a very deep velvety purplish crimson, the colour extending right into the throat (first-class certificate).

Oncidium macranthum nanum (Charlesworth, Shuttleworth & Co.).—In this variety the flowers are similar to the type, but the peduncle is only a foot long (award of merit).

Lælia crispa superba (T. Statter, Esq.).—A grand plant bearing three flower stems and about twenty blooms. The sepals and petals are white, the lip velvety purple shading to mauve, and elegantly fimbriated (award of merit).

Lælia Oweniana (F. Sander & Co.).—This is a hybrid between *L. Dayana* and *L. xanthina*, and is very attractive. The sepals and petals are pure white, the side lobes of the lip brownish purple, the centre white, and the throat pale yellow (award of merit).

Calanthe Sanderiana (F. Sander & Co.).—A distinct and attractive species with a flower stem about 18 inches long. The blooms are borne alternately towards the top; the sepals and petals are purplish mauve, the lip rich purplish magenta (award of merit).

Dahlia Mrs. Keith (H. Cannell & Son).—A decorative variety of admirable form; central florets yellow, suffused with rosy magenta; outer florets deeply suffused with the latter shade (award of merit).

Sarracenia Farnhami (W. E. Farnham, Esq., Loughborough).—An extremely beautiful form, 12 to 15 inches high, the pitchers rich crimson with paler transparent patches (first-class certificate).

Antirrhinum George Findlay (R. Dean).—A very beautiful variety, yellow, flaked and spotted with crimson, raised by Mr. Forbes; described as a dwarf bushy grower and very free (award of merit).

Campanula pyramidalis compacta (G. Wythes).—A dwarf selection of the well-known type, about 4 feet high, and densely clothed with bloom (award of merit).

Carnation The Moucher (Mr. Spurling, Blackheath).—A tree variety with bright yellow flowers of good form, petals broad and substantial but scentless (award of merit). We cannot see much taste in the nomenclature.

Picotee Duchess of Sutherland (Turner).—A large, well-formed flower, white ground, heavily edged with rose, the colour breaking somewhat into the petals (award of merit).

Picotee Nellie Bath (Turner).—A large yellow ground, heavily edged with purplish crimson (award of merit).

Carnation Old Coin (Turner).—A Fancy of considerable merit, the flowers being large and well filled; the colour is a mixture of yellow, light brown, and crimson.

Picotee Mrs. Arthur Barrett.—A yellow ground, heavily edged with rosy-red (award of merit).

Carnation Salamander (Turner).—A large, handsome, and well-filled self, rich rose (award of merit).

Carnation King of Scarlets (Turner).—A large, full, and heavy flower, with broad crumpled petals, very glowing in colour (award of merit).

Carnation Acme (Messrs. Pearson & Sons, Chilwell).—A Fancy, yellow ground flaked with bright rose, flower large. The variety is evidently a very free bloomer (award of merit).

Cherry Emperor Francis (Rivers).—Fruit pale red, of enormous size, and extremely rich in flavour (first-class certificate).

Plum Late Transparent Gage (Rivers).—Flesh very firm, of delicious flavour, ripening about the end of August (first-class certificate).

Fig Bourjasotte Grise (R.H.S. Gardens).—Fruit medium size, roundish, of excellent quality. The tree is an abundant bearer (first-class certificate).

Fig Monaco Bianco (R.H.S. Gardens).—Green, roundish, and remarkably rich in flavour (first-class certificate).

Fig Gourand Noir (R.H.S. Gardens).—Purplish black, of good size and excellent quality (first-class certificate).

Fig Violette Sepor (Veitch).—Yellowish, of good size and splendid flavour (first-class certificate).

In the afternoon a paper on Fuchsias was read by Mr. G. Fry. It was to be regretted that there were no plants in the Drill Hall to illustrate and give weight to his remarks. If a collection of species as well as florists' varieties could have been got together it would have been of much interest.

CARNATION SHOWS.

THE CARNATION AND PICOTEE UNION, OXFORD.

THE annual Exhibition was held in Mr. Dodwell's garden in the Stanley Road on Tuesday, August 2nd, and was in every way most satisfactory. Not only were there good entries in the various classes, and quality ruling good, but there was the additional attraction of the superb display of Mr. Dodwell's plants, just in prime condition, his garden being now given up to a great extent to the culture of these two

popular flowers. Those who have not seen Mr. Dodwell's gardens cannot without a visit get a reliable notion of the wealth of beauty to be found there in the thousands of plants in bloom, which include so large a number of Mr. Dodwell's own seedlings. Mr. Dodwell himself was in excellent health, considering the ravages of a very dangerous illness not long since, and gave a cordial welcome to friends, his old floral *confrères* especially. It was also pleasant and gratifying to see Mrs. Dodwell in health again, for she also was not long since prostrated by a very serious illness.

In the class for twelve Carnations, flakes or bizarres, dissimilar, Mr. M. Rowan, Clapham, was first with a stand of very fine flowers—viz., Gordon Lewis, very fine; Thalia, Master Fred, George Mcville, William Skirving, extra fine; Robert Houlgrave, a beautiful bloom of Jessica; Sportsman, in good character; Robert Lord, Oscar Wilfred, a rich coloured P.F.; Edward Rowan, and a fine bloom of John Buxton. Second, Mr. Reed, gardener to Mr. E. S. Dodwell, with a fine seedling R.F. 722; Master Fred, John Cliff, a fine C.B.; Florence Nightingale, Sarah Payne, Robert Houlgrave, Rifleman, Chaundy's 340, a superb scarlet flake; and seedlings. Third, Messrs. Thomson & Co., Spark Hill Nurseries, Birmingham, the finest blooms being their fine S.F. Claudian (F.C.C.), Sarah Payne, Seedling R.F., a fine bloom of C. H. Herbert; Master Fred, Thalia, Florence Nightingale, Admiral Curzon, Gordon Lewis, and Sharp's Lord Salisbury, a bright and promising C.B. Fourth, Mr. C. Phillips, Reading, in whose stand were fine blooms of Sportsman, Rifleman, Rob Roy, and Admiral Curzon, very fine. Fifth, Mr. A. R. Brown, with fine blooms of Edward Adams S.B.; John Keet, R.F., E. S. Dodwell, and a very fine Mars S.B. Sixth, Mr. George Chaundy, Oxford, there being three promising seedlings in this stand. Seventh, Mr. John Walker, Thame, Oxon.

Six blooms, dissimilar.—First, Mr. F. Hooper, florist, Bath, with Mrs. Barlow, Mrs. Daniels, Dr. Foster, P.F., dark in colour; Robert Houlgrave, Royal Scarlet, and a very fine seedling C.B. Second, Mr. Robert Sydenham, Birmingham, with Master Fred, very fine; Sarah Payne, Lovely Mary, Campbell's Miss Grainger, a promising P.P.B. with good petal; Prince George of Wales, and Thalia. Third, Mr. J. J. Keen, Southampton, with Matador, Rifleman, William Skirving, Sybil, Robert Houlgrave, Geggie's Ellen Crossley, a very promising P.P.B., as shown. Fourth, Mr. F. Nutt, Southampton. Fifth, Mr. W. Bacon, Derby. Sixth, Mr. John S. Heddesley. Seventh, Mr. R. Vesey, Clapham.

For twelve Picotees, Mr. Reed, gardener to Mr. E. S. Dodwell, was first with Norman Carr, very fine; Little Phil, Mrs. Coldridge, very fine; Nellie, very fine; Annet Lyle, Favourite, Imogen, Mrs. Sharp, Amelia, very fine; and three seedlings. Second, Mr. Rowan, with Little Phil, Amy Robsart, very fine; Favourite, J. B. Bryant, Clara Penson, Nellie, very fine; Mrs. Payne, very fine; Calypso, Edith D'Ombraim, Mary, Mrs. Dodwell, and Mrs. Gorton. Third, Mr. George Chaundy, Oxford, with Mrs. Burnett (seedling) extra fine; Dora Goodman, light rose edge, a very fine flower; a very fine bloom of Favourite, and others. Fourth, Messrs. Thomson & Co., Henry, red edge; Campanini, Lady Louisa, and Mrs. Ricardo, being fine. Fifth, Mr. John Walker, Thame, having Mrs. Gibbons very fine, and a good bloom of Nellie. Sixth, Mr. C. Phillips. Seventh, Mr. Vesey. Eighth, Mr. Anstiss, Brill.

For six Picotees, dissimilar, first Mr. W. Bacon, Derby, with Her Majesty, Norman Carr, Little Phil, very fine; a lovely bloom of Nellie, Mrs. Payne, and a grand bloom of Miriam. Second, Mr. Robert Sydenham with Constance Heron, Favourite, Lady Louisa, very fine; Brunette, Norman Carr, and Lakin's Seedling No. 10, very fine. Third, Mr. Rebeck, Southampton, Nellie and Mrs. Sharp, good. Fourth, Mr. Keen, Isabella Lakin and Mrs. Payne, both fine. Fifth, Mr. A. R. Brown, Handsworth, Birmingham, Juliette and Amelia being the best. Sixth, Mr. F. Hooper. Seventh, Mr. H. Startup. Eighth, Mr. John Payne, Oxford. Ninth, Mr. Nutt.

Twelve Fancy, Self, or yellow ground varieties, dissimilar.—First, Mr. Reed with Dodwell's 919, 921, 184, 167, Germania, Van Dyck, Madame Van Houtte, Schleiben (very fine), Theodore, Stadtrath Bail (very fine), also Premier; Gentle Jackie, a very fine pale pink Self; and Dodwell's 931, pale primrose with white blotch on the margin of each petal, and quite distinct. Second, Messrs. Thomson & Co. with Parbine Liecca (Pauline Lucca?), one of Benary's new varieties, bright rosy carmine, and extra fine; Brockhaus, another of Benary's new ones, and resembling Schleiben in the peculiar slate colour; Mrs. Joseph Chamberlain, a lovely Self; Germania; Van Dyck, very fine; Firefly, very brilliant colour; Mrs. Fred; Negress, rich dark Self; Klopstock, another of Benary's new varieties, very bright colour, and fine; Purple Emperor; Kathleen (Fancy), deep salmon tinted; and Victory, a brilliant coloured Fancy, somewhat resembling A. W. Jones. Third, Mr. M. Rowan, with the crimson Self Germania, Emmie, Terra Cotta, Janira, and Rose Celestial, all very fine. Fourth, Mr. George Chaundy, Seedling 1105, Mrs. Fred, and Hebe, all fine. Fifth, Mr. R. Sydenham, Victory and Ruby, fine. Sixth, Mr. C. Phillips. Seventh, Mr. J. Walker, and in this stand was a good bloom of Benary's Von Helmholtz, style of Mrs. Edwards, but better; and an excellent bloom of Queen of Hearts, one of the best of the Kilmurrys.

For six blooms of miscellaneous Fancies, Selfs, or yellow grounds.—First, Mr. W. Bacon with four seedlings, Mrs. Fred and Germania. Second, Mr. Nutt with Gladys and Terra Cotta, both fine; Germania, Annie Lakin, The Governor, and Theodore. Third, Mr. Rebeck with Lord Rendlesham (Fancy), very fine; Gladys, Annie Lakin, Germania, Joc Willett, and The Governor. Fourth, Mr. A. R. Brown, Victory and Schleiben, very fine. Fifth, Mr. J. P. Sharp. Sixth, Mr. Keen, who had

in his stand Benary's Gustav Frytag, very pale orange salmon, a distinct and beautiful variety.

In the class for six Kilmurry yellow ground seedlings, not less than three varieties, the awards were made as follows:—First, Mr. Reed with Nancy, Patrio, very fine; Queen of Hearts, also fine; Lyles No. 4, Tournament, and Gretchen. Second, Mr. Rebeck with Tournament (2), Queen of Hearts (2), Alfred Grey, and Exile. Third, Mr. W. Bacon, Rachel, very fine. Fourth, Mr. G. Chaundy. Fifth, Mr. Anstiss.

For six blooms of yellow grounds, any raisers, Messrs. Thomson and Co. were first with Terra Cotta, Victory, Rachel, Mr. Robert Sydenham, a superb new variety, raised by Mr. Douglas; Madame Van Houtte, and A. W. Jones, a fine collection of blooms. Second, Mr. Reed with Dodwell's 919 and 921, Germania, very fine; Nancy, Queen of Hearts, and a very fine Stadtrath Bail. Third, Mr. F. Hooper with Romulus and Janira, both fine, and four seedlings. Fourth, Mr. J. Walker, Thame, Dodwell's 156, fine. Fifth, Mr. Keen, Stadtrath Bail, very fine. Sixth, Mr. Nutt, Lilian, very fine; and a fine bloom of Agnes Chambers. Seventh, Mr. A. R. Brown. Eighth, Mr. Rebeck. Ninth, Mr. Anstiss.

SINGLE SPECIMENS.—A large number of single blooms were staged, and the following were the awards:—Scarlet Bizarres.—First and fourth, Mr. Rowan, with Robert Houlgrave. Second, Mr. Reed, with ditto. Third, Mr. Phillips, with Admiral Curzon. Fifth, Messrs. Thomson & Co., with the same. Crimson Bizarres.—First, second, and fifth, Mr. Robert Sydenham, with Master Fred. Third, Mr. Rowan, with Edward Rowan; and fourth with J. D. Hextall. Pink and Purple Bizarres.—First and third, Mr. Rowan, with Wm. Skirving; and fourth with Sarah Payne. Second and fifth, Mr. R. Sydenham, with Sarah Payne and Miss Grainger. Scarlet Flakes.—First, Mr. G. Chaundy, with Guardsman, a superb flower. Third, Messrs. Thomson & Co., with Claudian. Fourth, Mr. Rowan, with Sportsman. Fifth, Mr. Sydenham, with Clipper. Purple Flakes.—First and fourth, Mr. Rowan, with Gordon Lewis; and third with George Melville. Second, Mr. Reed, with 1003. Fifth, Mr. Phillips, with Seedling. Rose Flakes.—First, Mr. Sydenham, with Thalia; and third with Lovely Mary. Second, Mr. Reed, with Seedling 722. Fourth, Mr. Rowan, with John Baxter. Fifth, Mr. Startup, with Mrs. May.

The single bloom classes of Picotees were thrown together and divided into three classes—heavy edge, medium edge, and light edge, and the awards were as follows:—Heavy edged.—First, Mr. Chaundy with a very fine bloom of Morna. Second and sixth, Mr. Rowan with Amy Robsart. Third and fifth, Mr. Reed with Little Phil. Fourth, Mr. Rowan with same. Seventh, Miss Thomson with Gertrude. Medium edged.—First, Mr. W. Bacon with Miriam (see certificate), a grand bloom, and fifth with the same. Second, Mr. Reed, with Mrs. Coldridge. Third, Mr. Chaundy with Mrs. Burnett (see also certificates). Fourth, Mr. Vesey with Norman Carr. Sixth, Mr. Rowan with Muriel; seventh with Mrs. Payne. Light edged.—First and second, Mr. Rowan with Nellie, and sixth and seventh with Mary. Third, Mr. Phillips with Jessie. Fourth, Mr. Sydenham with Sylvia. Fifth, Mr. Reed with Favourite.

For Sels Messrs. Thomson were first with Mrs. Joseph Chamberlain (see also certificates), and second with Mrs. Fred. Third and fifth, Mr. Sharp with Germania. Fourth, Mr. Nutt with Annie Lakin.

Fancies.—Mr. Nutt was first with a grand bloom of Von Beningen, and fourth with Theodore. Second, Mr. Reed with Van Dyck, and fifth with Schleiben. Third, Messrs. Hewitt & Co. with Sir Henry Wiggin, a fine flower resembling Dorothy. **Yellow Grounds.**—First, Mr. Nutt with Terra Cotta. Second, Mr. Reed with Dodwell's 846, third with Stadtrath Bail, and fourth with Dodwell's 150. Fifth, Mr. F. Hooper with a seedling.

FIRST-CLASS CERTIFICATES.—CARNATIONS.

A fine collection of flowers was staged for certificates, high class quality ruling throughout, three scarlet flakes obtaining these honours, a circumstance unprecedented in the history of the Carnation. And Mr. Dodwell may honestly feel some degree of pride in this event happening at one of his great Carnation *jêtes*. The following flowers received the honours of a F.C.C.

Claudian, S.F.—Exhibited by Messrs. Thomson & Co., Birmingham. A noble well built flower, bright in colour with clear white ground, and fine petal.

Guardsman, S.F.—Exhibited by Mr. George Chaundy, Oxford. A very bright coloured flower with superb petal and form, and very fine.

William Dean, S.F.—Exhibited by Mr. George Chaundy, Oxford. Not so large as the two preceding, but grand in its rich colouring and bold flakes, very good in form and petals, and the white very fine.

Fred Phillips, P.P.B.—Exhibited by Mr. George Chaundy. A bright deep coloured, very fine flower.

Princess May (Self).—Exhibited by Messrs. Hewitt & Co., Birmingham. Soft pink tinted blush colour, a very fine flower.

Mrs. Joseph Chamberlain (Self) exhibited by Messrs. Thomson & Co. A very lovely pale salmon pink self of exquisite form and beautiful petal, and quite distinct.

Negress (Self) also from Messrs. Thomson, rich dark shaded crimson maroon with a velvety surface; both fine and distinct.

PICOTEES.

Miriam, medium purple edge; a bright margin, a flower of great substance; broad petal; the white very pure; a superb flower. Exhibited by Mr. Wm. Bacon, Derby.

Mrs. Burnett, heavy rose edged. Exhibited by Mr. George Chaundy. Broad petal; a full well built flower, and very fine.

Duchess of Portland (Fancy).—Exhibited by Mr. Joseph Lamb, Burton Joyce, Notts. White, with small pale rose bars, resembling Thomson's "Annie Sophia," but deeper in colour; a fine well built flower with a strongly marked Old Clove Carnation perfume; a fine border variety especially, as well as an exhibition flower.

PREMIER BLOOMS.—The premier blooms in the Exhibition were:—Carnation Seedling R.F. 722, shown by Mr. Reed. Self Germania by Mr. Rowan. Fancy Van Dyck by Mr. Reed; also Picotees Little Phil, and yellow ground Stadtrath Bail, by the same exhibitor.

Mr. Thomas Anstiss sent a stand of twelve fine Dahlias.

Picotees were generally in grand form, purity and quality being strongly represented. There was also a marked advance in the Fancies, the leading winning stands being especially fine, Mr. Dodwell's twelve, exhibited by his gardener, Mr. Reed, and Mr. Bacon's six being of remarkable quality. Both Fancies and Sels are fast finding their way into the affection of growers, and most deservedly so, for they are really beautiful. Mr. Dodwell must be credited with having assisted much to make both sections popular.

The southern growers were in condition. The Lancashire, Yorkshire and still more northern growers' plants were not in bloom. The season in the north, even to Scotland, is very late. The Birmingham growers did much better than they expected, for so few blooms were open, and some very promising blooms they depended upon were so long in developing that they collapsed before getting fully developed, and their final bloom is late, the flowers not being of the usual size.

The luncheon party at Oxford is always a most pleasant meeting of growers, judges, and friends, and the luncheon itself of a *recherché* character. Mr. Dodwell presided, Mrs. Dodwell sitting by his side, and many members of his family present. A few genial speeches were made, a most delightful feature of the gathering being the finished vocal music by Mr. E. Jackson's quartette party, so heartily enjoyed by the visitors from a distance, who have not many opportunities for hearing such admirably rendered glees and quartettes.

Mrs. Dodwell was the recipient of a handsome presentation silver teapot to celebrate the Jubilee year of her married life.

THE MIDLAND CARNATION AND PICOTEE SOCIETY.

THE second annual Exhibition was held at the Edgbaston Botanic Gardens on Saturday, the 6th inst., and although the Yorkshire and Lancashire and more northern growers were not in bloom, and could not stage a flower, there was an excellent display; a large number of fair blooms were staged, and the competition was very close in many instances.

For twelve Carnations, dissimilar, Mr. R. Sydenham was first with an excellent stand of flowers, amongst them Master Fred, a very fine flower, beautifully marked and rich in colour; Edward Adams, S.B., a good flower and finely bizzared; Prince George of Wales, finely flaked with purple and ground colour very pure; Sarah Payne, P. and P.B., rich in colour with a clear white ground, and still one of the best; Thalia, very bright and evenly marked. Second, Mr. E. S. Dodwell, his best blooms being a grand Dodwell's Othello S.B. with bright scarlet and maroon markings and fine form; Dodwell's 1003 P.F., clear white ground finely flaked with bright purple; Chaundy's 346, deep scarlet flake, clear ground colour and fine form; and a seedling, R.F. 1026, bright rose on a clear white ground. Third, Messrs. Thomson & Co., Birmingham, and in this stand was a fine bloom of C. H. Herbert, S.B., Robert Houlgrave, very fine, and a fine Florence Nightingale, clear ground and bright purple flake. Fourth, Mr. E. Clinton, London. Fifth, Mr. J. Lakin, Oxford, with very fine blooms of Douglas's Agricola, P.F., large and of fine form; Robin Hood, P. and P.B., beautifully marked and bright in colour; C. H. Herbert, and the grand old variety Sportsman in fine character. Sixth, Mr. R. Makepeace, Leicester. Seventh, Mr. John Walker, Thame, Oxon. Six Carnations, dissimilar.—First, Mr. A. R. Brown, Handsworth, with Richard Bealey, Mars, Biddy Malone, S. S. Thomson, J. D. Hextall, Sportsman: a fine even lot. Second, Mr. F. Hooper, Bath. Third, Mr. George Chaundy, in whose stand were very fine blooms of Guardsman, S.F., bright in colour, and Gilbert, a seedling S.B., very bright in colour and of fine form. Fourth, Mr. C. P. Thurstan, Wolverhampton, and in this stand was a very fine bloom of Edward Adams, S.B. Fifth, Mr. H. Foxen, Leicester. Sixth, Mr. J. Edwards, Manchester. Seventh, Mr. J. P. Sharp.

For twelve Picotees, first, Mr. Charles Turner, Slough, with a superb lot of blooms, Esther, very fine, medium purple edge, and broad smooth petal; Nellie, very fine; Adolphus, Liddington's Favourite; also Premier, light edge Picotee; Lady Emily Van de Weyer, Zerlina, Mrs. Hasford, very fine; William Summers, Dr. Epps, Madeline, also very fine; Thomas William, and Lady Churchill. Second, Mr. Joseph Lakin, including very fine blooms of Norman Carr, Polly Brazil, and seedling heavy red Ne Plus Ultra. Third, Mr. E. S. Dodwell, with Little Phil, Nellie, and Mrs. Payne, very fine. Fourth, Mr. R. Sydenham, Amy Robsart, Favourite, and Brunette especially fine. Fifth, Messrs. Thomson & Co., Mrs. Herbert and Campanini, fine. Sixth, Mr. E. Clinton. Seventh, Mr. R. Makepeace. Six Picotees, dissimilar; twelve competitors.—First, Mr. A. W. Jones, Handsworth, with a bright stand of refined flowers—viz., J. B. Bryant, Campanini, Thomas William, extra fine. Second, Mr. A. R. Brown, Favourite and Becky Sharp, very fine. Third, Mr. J. Edwards, Amelia and Mrs. Geggie, very fine. Fourth, Mr. F. Hooper. Fifth, Mr. Henry Pither, Oxford. Sixth, Mr. Hy. Foxen. Seventh, Mr. F. Denning, Moseley.

Twelve yellow ground or Fancy Carnations or Picotees, dissimilar.—First, Mr. Charles Turner with very fine blooms, comprising Annie Douglas, Romulus, Countess of Jersey, Almira, Stadtrath Bail, Mr. Henwood, Victory, Adela, Old Coin, Remembrance, Sophia, and Edith M. Wynne, a bright fine yellow ground flower. Second, Mr. E. S. Dodwell with Richard Tryon, one of Benary's new varieties, a very fine flower with rich orange yellow ground colour, and bright coppery plum margin; Terra Cotta, very fine; also Dodwell's 475 and 156; other kinds were Tournament and Seedlings. Third, Messrs. Thomson & Co. with very fine blooms of A. W. Jones, Von Helmholtz, Victory, and Terra Cotta. Fourth, Mr. John Walker. Fifth, Mr. Anstiss. Six yellow ground kinds.—First, Mr. George Chaundy with Nova, very fine; Annie Ross, orange yellow ground with blue tinted lilac markings, a fine flower; Stadtrath Bail, Agnes Chambers, and two seedlings. Second, Mr. A. W. Jones with Victory, Mrs. Robert Sydenham, Stadtrath Bail, Dodwell's 191, Alfred Grey, and Brockhaus. Third, Mr. J. Lakin. Fourth, Mr. F. Hooper. Fifth, Mr. Sydenham. Sixth, Mr. Brown. Seventh, Mr. A. Spurling, London.

For twelve self Carnations, dissimilar, first Mr. C. Turner with Germania, Salamander, very fine salmon; The Governor, Rose Unique, very fine; Niphetos, Golden Fleece, Lady Mary Currie, Rose Wynne, shaded scarlet maroon (also the Premier Sel), King of Scarlets, Catherine, and two seedlings. Second, Mr. Dodwell with Purple Emperor, Mrs. Muir, Mrs. Reynolds Hole, Midas, a fine rose self; Ruby Perfection, Mrs. Fred, Tom Pinch, Emmie, and others. Third, Mr. Sydenham. Fourth, Messrs. Thomson & Co. Fifth, Mr. G. Chaundy. Sixth, Mr. Anstiss. For six self Carnations Mr. F. Hooper was first, Mr. Jones second, Mr. Brown third, Mr. Spurling fourth, Mr. J. Edwards fifth, and Mr. W. Bacon, Derby, sixth. In the class for six Carnations or Picotees for those who have never won a prize there was a large number of entries. First, Mr. J. J. Clarke, Leicester; second, Mr. A. West, Leicester; third, Mr. E. B. Handley, Birmingham; fourth, Mr. E. M. Sharp, Birmingham; fifth, Mr. E. Causer, Barton-on-Needwood.

Seventeen classes were set aside to the different sections of Selfs, and a large number of blooms were staged, but we can give only the first and second prize winners in each class—viz.: S.B.—First, Mr. E. Clinton. Second, Mr. Sydenham. C.B.—First, Mr. Sydenham. Second, Mr. Dodwell. P. and P.B.—First, Mr. C. F. Thurstan. Second, Mr. Sydenham. S.F.—First, Mr. Lakin. Second, Mr. Pither. R.F.—First, Mr. Sydenham. Second, Mr. Chaundy. P.F.—First, Mr. C. Turner. Second, Mr. E. Clinton. PICOTEEES, H.R.E.—First, Mr. Chaundy. Second, Mr. A. W. Jones. H.P.E.—First, Mr. Jones. Second, Mr. Dodwell. Heavy Rose Edge.—First, Mr. Turner. Second, Mr. Dodwell. Heavy Scarlet Edge.—First, Mr. J. P. Sharp. Second, Mr. E. M. Sharpe. Medium Red or Purple Edge.—First, Mr. C. Turner. Second, Mr. R. Sydenham. Medium Rose or Scarlet Edge.—First, Mr. Sydenham. Second, Mr. A. W. Jones. Light Red Edge.—First, Mr. Jones. Second, Mr. Clinton. Light Purple Edge.—First, Mr. Clinton. Second, Mr. Lakin. Light Rose or Self Edge.—First, Mr. Dodwell. Second, Mr. Jones. Self Carnation.—First, Mr. C. Turner; also second. Fancy or Yellow Ground.—First, Mr. J. Lakin. Second, Mr. C. Turner.

For twelve varieties of Carnations or Picotees, dissimilar, five stems of each.—First, Mr. S. Rogers, Whittlesey, Peterborough. Second, Mr. F. Hooper. Third, Mr. John Walker. Fourth, Mr. W. H. Divers. Fifth, Mr. Samuel Beal. Some excellent exhibits were staged in this class, as also for six varieties, set up under the same conditions. Some excellent bouquets, posies, sprays, and baskets of Carnations were staged for the prizes offered, and there was a spirited competition for the prizes for border kinds, six varieties in bunches. Mr. W. H. Divers of Ketton Hall Gardens, near Stamford, was first; Mr. F. Perkins, Leamington, second; Mr. F. Hooper, Bath, third; Mr. S. Rogers, fourth; and Mr. S. Beal, extra. Other classes were also filled.

The premier blooms were Bizarre Dodwell's Othello, from Mr. Dodwell; Flake, Charles Henwood, from Mr. C. Turner; Heavy-edge Picotee, Mrs. Harford, from Mr. Turner; Light edge ditto, Liddington's Favourite, from Mr. Turner; Yellow ground ditto, Mrs. Robert Sydenham, from Mr. J. Lakin; Self ground ditto, Germania, from Mr. C. Turner.

First-class certificates were awarded to Mr. J. Lakin for heavy red edge Picotee Ne Plus Ultra, a very fine flower of pure ground colour, great substance, and with fine petal; to Mr. S. Beale for rose-edge Picotee Mrs. S. Beale, a flower of great merit; to Mr. J. P. Sharp for heavy scarlet-edge Picotee Scarlet Queen, a superb flower, better than Mrs. Sharp by the same raiser; to Mr. Joseph Lakin for light purple-edge Picotee Miss Lakin, a very refined flower; to Mr. Charles Turner for rose-edged Picotee Lady Emily Van de Weyer and Fancy Picotee Edith M. Wynne; to Mr. J. Lamb, Benton Joyce, Not's, for Fancy Picotee Duchess of Portland, also certificated at Oxford; to Mr. C. Turner for self Carnations Rose Unique and Rose Wynne; and to Messrs. Thomson & Co. for self Carnations Negrass and Mrs. Joseph Chamberlain. Several other very promising seedlings were staged, some already certificated at Oxford and London, but not in good character. One variety, Crayon d'Or, pale cream striped half way down the petal with pale carmine, and with finely formed petal and good build, is a distinct and beautiful flower.

A large number of honorary exhibits were also staged, and handsome silver medals awarded to the following:—Mr. Davis Yeovil, for Begonia blooms; Mr. Eckford, Wem, for Sweet Peas; Mr. W. Sydenham, for Pansies; Mr. J. Forbes, Hawick, for cut flowers; Messrs. Dicksons, Chester, for Roses and herbaceous blooms; Messrs. Hewitt & Co.,

Solihull, for group of plants; Messrs. Dobbie & Co., Rothesay, for cut flowers; Mr. Bailey, jun., Sunderland, for Pansies, &c. Some bronze medals were also awarded.

NEW DWARF CANNAS.

It is not often that one has the pleasure of drawing public attention to a novelty of such genuine excellence as the splendid new race of dwarf Cannas originated by M. Crozy, of which an illustration, from a photograph, appears below (fig. 19). These new Cannas, unlike many new things which are announced with a great flourish of trumpets, and then after a year or so sink into oblivion, have, as our American friends say, "come to stay." They have so many good points to recommend them that I have no fear in predicting a prosperous future for them, and I venture to say that in a few years they will be found in the ducal



FIG. 19.—DWARF CANNAS.

conservatory and the amateur's 10-foot structure, which he fondly calls by the same name.

To enumerate their good qualities—firstly, the flowers are gorgeous enough to attract attention in any society, resembling rather fine spikes of Gladioli than the older kinds from which they are descended, while the foliage is handsome enough to make them worthy of cultivation on this count alone. Then the height of the plant has been reduced from 5 or 6 feet to 18 inches or 2 feet—indeed, a plant of "Star of '91" produced a fair spike of bloom this summer when only 6 inches high, so that they may be employed in innumerable ways instead of sub-tropical bedding only, which was formerly the case.

The constant succession of flowers produced is another good point, as the same spike will go on pushing up fresh flowers from just below the faded ones for months together, if care be taken not to cut too low in removing the old trusses. Then, again, the plants die down in winter, and only require protection from frost, a great point where glass space is limited.

The cultivation of the plant is of the simplest, rich loam with a fair share of pot room, plenty of water, and a light airy greenhouse,

presuming they are grown under glass; though, of course, as in the case of the older kinds, they make a fine effect planted outside in fairly sheltered situations. While thus easily grown, the propagation by division is not so rapid as to cause any risk of the best varieties becoming "common" for many years to come, which has been the bane of such things as *Coleus*.

I might go on singing the praises of the Crozy Cannas for a column or so, but must stop for fear of the pruning scissors, and conclude by giving the names of a few excellent varieties. Madame Crozy, as yet the gem of the collection, rich scarlet edged with gold; Star of '91, closely resembling Madame Crozy, but even dwarfer in habit; Kaiser Wilhelm, rich glowing crimson scarlet, a grand colour, should be included in the most limited selection; Alphonse Bouvier, rich crimson scarlet, and a massive spike of bloom, extra; Comte H. de Choiseul, rosy purple, fine bold flower with well rounded segments; and Ulrich Brunner, dark red shaded orange.—CHAS. E. PEARSON, *Chilwell Nurseries, Notts.*

HORTICULTURAL SHOWS.

WESTWELL GARDENERS' SOCIETY.—AUGUST 1ST.

THE question as to the value or otherwise of cottage gardeners' societies has been often discussed, and there is certainly much to be said, as Sir Roger says, on both sides. It has been urged that they encourage a great deal of jealousy and ill-will, that dishonesty is, if not openly, at any rate secretly, practised, that borrowing from neighbours and exhibiting the borrowed articles as the product of the exhibitor's own garden is not an unusual thing, and that the rest of the cottager's garden is sacrificed to growing a few special things for exhibition, and so it is said better not have them. I have known societies where these things have been done, and certainly there no good was effected; indeed I have known one society where an exhibitor the night before the Show visited his neighbour's garden, and had the impudence to display the productions thus obtained as the produce of his own garden.

On the other hand exaggerated notions of their neighbours are sometimes entertained. It is not to be supposed that a man who is interested in his garden will of necessity be a sober man. I have known many sad instances to the contrary; but it does him good in many ways. It quickens his thoughts, leads him perhaps to read, occupies his evening hours during the summer months, and increases his supply of home productions. It is a home occupation, and whether in allotments or cottage gardens ought, I think, to be encouraged, provided certain lines be followed.

This Society of which I now write is entirely managed by themselves, and as I have nothing to do with it in that way I can more readily advocate its mode of working. The members are all working men, and all their officers are chosen from among themselves; they keep their own accounts, arrange their own meetings, and, in fact, do all the business. To transact this they meet monthly, and show such things as may be in season, receiving points, which are counted up at the end of the year. The meetings are held (be not shocked, my blue ribbon friends) at the public-house in the village. I had some questionings with myself on this point, but I quickly decided that they ought not to be an obstacle to my supporting it. The house is an exceedingly well conducted one; and I could not see why, if our National Rose, Dahlia, and other societies hold their meetings at a London hotel, country societies of a like nature should not hold theirs at the country inn. The meetings are invariably well conducted, no excess in drinking or other bad practices takes place; and, in fact, the Society rather helps the cause of temperance than hinders it. Were the house in any way disorderly I should at once say no, but so long as it continues to be well conducted so long, I think, may the Society hold its meetings there without offence.

Another cause of their success I believe to be that they have confined the membership to the one parish. They have flourished so well that some of the neighbouring parishes have been anxious to join them. This they have, and as I think wisely, refused. As the case is now they all know one another's gardens, and if there were any attempt to act unfairly by exhibiting things not grown by themselves it would be at once detected. This may seem a very low reason, but we must consider what a poor thing human nature is. Besides, there would be sure to be jealousies and heartburnings. There can be no doubt that our people here enjoy exceptional advantages. The village is sheltered from the north and east, and the soil is a good alluvial deposit, so that not only can our people compete successfully, as they have sometimes done with neighbouring ones, but even those who live in the other parts of it could have no chance of competing with them successfully.

Another cause of success is that they are very wide awake to the necessity of having good seeds. They procure these from one of our most eminent seedsmen (Sutton & Sons of Reading), and they are distributed amongst all the members alike. They are very keen as to novelties, and one or other of their number often goes in for these, hoping thereby to score a point or two.

Another point is that they do not allow themselves to get into debt. They secure a certain number of subscriptions from those resident in the parish and their friends. They do not look for much gate money,

but they have hitherto contrived to keep that as a reserve fund. The prizes are small, and so it is not so much the hope of getting money as the honour of winning a prize that gives zest to their competition.

The schedule of prizes is carefully arranged into two classes, one for gardeners, the other for cottagers; and that the value of the prizes is not altogether the object of the exhibitors may be gathered from the fact that the whole amount is under £10, and the number of prizes upwards of a hundred, not including special prizes offered by friends, which are open to all members. Amongst these are prizes for butter and bread.

The outcome of all this was the Exhibition held on Bank Holiday, in a tent in the Recreation Ground in the village. Like a good many exhibitions it was held in unfavourable weather. The day was showery, not such an incessant downpour as we had at Chester, but still enough to keep visitors away in the afternoon; but the evening dried up, and there was a good attendance of the villagers, who all took a great interest in it. It would be useless to give the names of the competitors or enumerate the prizes obtained, but, as an impartial witness, I may say that the vegetables were such as would do credit to any exhibition, and that the competition was very keen, especially in Potatoes.

My object in giving this notice of the Show was the hope that it may be useful to those who wish to encourage cottage gardening, and to point out the lines on which I think such societies ought to be managed, and that when certain principles are kept in view success may be fairly looked for.—D., *Deal.*

NORTHAMPTON.—AUGUST 1ST.

THE eleventh annual Show of the Northampton Horticultural Society was held on Bank Holiday, at Delapré Park, by kind permission of J. S. Bouverie, Esq., J.P. A better site for holding such an extensive horticultural exhibition could scarcely be found. The Society offers tempting prizes, consequently the competition in most classes was good. The principal class, for twelve stove or greenhouse plants, was won by Mr. J. Cypher, Cheltenham, with magnificent specimens of the following—*Erica Thompsoni*, *Croton angustifolius*, *Croton Sunset*, *Latania borbonica*, *Ixora coccinea*, *Kentia australis*, *Erica tricolor vera*, *Phoenocoma prolifera*, *Stephanotis floribunda*, *Cycas revoluta*, *Kentia Forsteriana*. Mr. Finch, gardener to J. Marriott, Esq., Coventry, closely followed for second honours. His best plants were *Croton Johannis*, *Ixora Fraseri*, *Bougainvillea glabra*, and *Sobralia macrantha*. The latter was an exceedingly fine plant, and was awarded the silver medal for high cultivation.

For six stove or greenhouse plants the competition was also good. Mr. Lainchbury, gardener to C. Watkin, Esq., Wellingborough, was well first with creditable plants; second, Mr. J. Holland, gardener to W. Jeffery, Esq., Cliftonville. For a group of miscellaneous plants (open), first, Mr. J. Cypher with a light and very graceful arrangement. In the group confined to gardeners the competition was very spirited; first Mr. Jeffery, second Mr. H. Tressler, gardener to M. P. Manfield, Esq., M.P. Miscellaneous plants were also well shown, such as Ferns, Fuchsias, Begonias, and table plants.

Cut flowers made a grand display. For twenty-four Roses the Rev. W. H. Jackson, Bedford, was first; Messrs. J. Perkins & Sons, Northampton, second; Messrs. T. Perkins & Sons, Northampton, third. The Rev. W. H. Jackson was also first for twelve Tea Roses, splendid specimens.

Collections of fruit were poorly shown. First, Mr. S. Cole, gardener to Earl Spencer, Althorpe. Vegetables were a striking feature. Mr. W. Fyfe, gardener to Lord Wantage, won first honours in the principal classes, his collection of twelve in the open class closely approaching perfection. They were staged in that excellent manner for which Mr. Fyfe has long been noted. The sorts were Pea Autocrat, Beet Pragnell's, Tomato Champion, Turnip Snowball, Cauliflower Autumn Giant, Cucumber Perfection, Artichoke Green Globe, Onion Main Crop, Potato Snowdrop, Carrot Matchless, Celery Standard Bearer, and Dwarf Bean Canadian Wonder. Mr. J. Kightley, gardener to Sir Hereward Wake, Bart., was second, also showing well.

The competition in the amateur and cottagers' classes at this Show is always of a high character, and the exhibits continue to maintain their excellence. Honorary exhibits were largely and well shown by Messrs. T. Perkins & Sons and Messrs. J. Perkins & Sons.

KENLEY AND COULSDON.—AUGUST 3RD.

THE verdict of the Judges, Messrs. Whalley of Addington Park, Jeffries of Eltham, and A. Dean, Kingston-on-Thames, was that this was a remarkably neat Show. The arrangements were carried out with such good taste by Mr. W. Smith, the active Secretary, and Mr. Grant of Caine Hill Asylum, that when judging began everything was as clean as a new pin.

The trade, as usual, sent out several good groups of plants, especially Messrs. J. Laing & Son, Forest Hill; Messrs. J. Peed & Sons, Norwood; Mr. Box, Croydon; Mr. Butcher, Norwood; and the Westerham Nursery Company; and there was a very fine group of handsome plants from the Caine Hill Lunatic Asylum, which Mr. Grant had arranged. Very good indeed were the large decorative groups in competition, the best a charming one set up by Mr. Carey, gardener to Cecil Price, Esq., Kenley. The best small group was set up by Mr. Evered, gardener to R. Blenkinsop, Esq. Plants were numerous and fairly good, but cannot all be referred to. Mr. Carey had the best six Begonias, good plants, also the best Zonal Pelargoniums; and Mr. Johnson, gardener to W. C.

Straker, Esq., had the best three Caladiums, whilst the best four Ferns were staged by Mr. Westbrook, gardener to J. Young, Esq. There were many good exhibits in cut flowers, especially the boxes of bunches of hardy varieties. Dinner table decorations formed an attractive class, the best set being dressed with small yellow flowers, Iceland Poppies, Sweet Sultan, Coreopsis, and Ferns and Grasses arranged by Mrs. Beadel. Other tables were dressed with yellow coloured Shirley Poppies, Bougainvillea glabra, white Peas, and foliage of variegated Acer and Sweet Peas in dark colours.

Some good Buckland Sweetwater and Black Hamburgh Grapes, not in competition, were sent by Captain Arkwright. Mr. Evered had the best collection of hardy plants in a dozen small dishes, and also the best Melon, of very fair flavour. Vegetables in all classes were excellent. In two classes for six varieties Mr. Floyd, gardener to Mrs. Jackson, was well first, having his admirable exhibits arranged in flattish green wooden trays, 2 feet by 2½ feet; they were as nicely set up as well could be, and presented features far more commendable than the ungainly baskets so generally used. Mr. Evered showed the finest six dishes of Potatoes, Vicar of Laleham, Satisfaction, Beauty of Hebron, White Beauty, &c.; and Mr. Johnson was second with a rather smaller, but still handsome, lot of tubers. We would not omit mention of a very interesting collection of Cacti, sent by Messrs. Jas. Carter & Co., High Holborn.

During the afternoon, from the band-stand, to a good and much-interested audience, assisted by various exhibits taken from the Show, Mr. A. Dean, on behalf of the Surrey County Council, gave an address on the lessons to be learned from the Exhibition. The site of the Exhibition was a park-like meadow situate in a deep valley a few minutes' walk from the railway station.

NEWENT.—AUGUST 4TH.

THE fifth annual Exhibition of this Society was held in the beautiful grounds at Newent Court, kindly placed at the disposal of the Committee by the owner, A. Knowles, Esq., on August 4th. The fine weather induced a large attendance, and no doubt the Show was as great a success financially as it was in other respects, there being over 1000 entries. It is most gratifying to note the improved quality of the exhibits staged each year by amateurs and cottagers, the latter more especially exhibiting first-class produce.

Groups were the greatest attraction, and were a marked improvement on former years. Messrs. Roberts & Storr of Gloucester were first with a lovely group, admirably arranged. The flowering and foliage plants were finely grown and put together with great taste. A. Knowles, Esq. (gardener, Mr. G. Shaw), was placed second, and Captain Archdale, The Holts, Newent (gardener, Mr. Durham), third. The competition between the second and third was very close, causing the Judges much trouble to decide which was best. — Martin, Esq., Upper Hall, Ledbury (gardener, Mr. Bailey), was fourth, his group being rather heavy. For six Ferns Messrs. Roberts & Storr were a good first with massive plants. Second, Mr. Bailey. Roses were not shown well, and the competition was not keen. Mr. Bosly, Redmarly, was the most successful exhibitor. Asters and Zinnias do not call for any special mention.

Mr. Dawes, gardener to Lady Elizabeth Biddulph, Ledbury Park, Ledbury, was a good first for a collection of eight dishes of fruit. His Madresfield Court Grapes were magnificent, the berries and bunches being of extra size, and only required a few more days for perfect finish; Brown Turkey Figs, Melons, Peaches, Nectarines, Apricots, Plums, and Exonian Strawberries were very fine. Mr. Bailey was second with a good collection, his Grapes being a little weak. For both black and white Grapes Mr. Dawes took the first prizes, his Alnwick Seedling and Buckland Sweetwater being specially worthy of note for size and finish. Mr. Bailey and Mr. Preston, Quarry House, Gorsley, took the other Grape prizes. Messrs. Roberts & Storr were the most successful with Melons, Mr. Dawes following closely. For both Peaches and Nectarines Messrs. Dawes and Bailey took the prizes in the order named the former staging grand fruit. Mr. Dawes was first for Cucumbers, Messrs. Roberts & Storr second, both staging well. For Tomatoes Messrs. Roberts & Storr were an easy first with a dish of perfect and very large fruits, unnamed. Mr. Dawes second.

With collections of vegetables, J. Smith, Esq., The Scarr, Newent, was first for both Messrs. Sutton's and Messrs. Carter's prizes. Other successful exhibitors in these classes were Major Howe, Captain Onslow, Rev. R. Horton, and Dr. Smelt. For Messrs. Wheeler's prizes, A. Knowles, Esq., was the most successful, very closely followed by Captain Archdale and Mr. Bellamy. Good competition took place in the jam and honey classes, the exhibits being of a very high order. Prizes were given for cooked Potatoes, and excited much interest. The Committee are to be congratulated on having worked up the Show so successfully, and also on having such an enthusiastic Secretary as Mr. J. J. Clark. Long may they prosper in their good work is the wish of—
A CORRESPONDENT.

LEICESTER ABBEY PARK FLOWER SHOW AND GALA.

THIS Show, which is most admirably managed by a Committee of the Leicester Town Council, with Mr. John Burn, the Park Superintendent, as Secretary and Curator, is fast becoming one of the most important and popular in the midland counties. It is visited not only by the major portion of the best citizens of Leicester, for whom it provides an enjoyable holiday, but also by thousands of the inhabitants

of neighbouring towns and country villages, the railway companies offering special facilities by running numerous special trains. The Show has continued increasing in importance and popularity each year since its commencement some ten years back, and so long as the present able management lasts its prosperity is likely to be uninterrupted. The Park in which it is held is admirably adapted for the purpose. The grounds are extensive, and in point of keeping and beautiful embellishments are scarcely second to any in the kingdom. The river Soar forms the boundary on one side, and this is taken advantage of by the Committee to provide a series of water sports, which, judging by the thousands of people crowding the banks of the river whilst they are in progress, are immensely popular. Three excellent local brass bands discoursed good music in different portions of the park.

The Show was of generally excellent quality throughout, and sufficiently extensive to well fill five large tents. Its most meritorious features are the fruit, cut flowers, and vegetables, in all of which it is scarcely surpassed by any provincial show. The weak points are the groups arranged for effect, and the collections of stove and greenhouse plants, the prizes for these being insufficient to bring exhibitors from a distance. The result is that the display does not compare favourably with what has been seen at such shows as Manchester, York, and Shrewsbury. It is hoped that the Committee having thus far done their work so well, and made of the Show a popular annual holiday, as well as a great financial success, will take note of weak points as here indicated, and endeavour to strengthen them.

Leaving generalisation for detail, we enter No. 1 tent, where were shown the groups and collections of stove and greenhouse plants. Class 1 in the schedule was for a group of plants to occupy 100 feet superficial. Four prizes were offered—viz., £5, £3, 30s., and 20s. For these four groups were arranged (all by local growers), occupying the whole space down the centre of the tent. A want of originality was apparent in them; all of these groups were put up on the much too stereotyped plan of starting from a tall Palm in the centre and working downwards, forming a sloping bank of foliage and flowering plants closely packed together, the close packing serving to hide the pots and also defects in the plants. The first prize was taken easily by Mr. John Smith, gardener to S. Bennett, Esq., Holmedale, Stoneygate, Leicester, who had far the brightest and best arranged group, which very well deserved the honours it won. Second, Mr. George Barry, gardener to H. Snow, Esq., Glewood. Third, Mr. John Mawby, Victoria Nurseries, Leicester. Fourth, Mr. W. Calvert, gardener to G. Oliver, Esq., Hughendon, Knighton, Leicester.

In the class provided for six stove and greenhouse plants there was only a small entry, the first prize going to Mr. John Smith, whose collection contained a very fine specimen of *Abelia floribunda*, densely covered with its small white flowers. It is a plant worthy of more general cultivation. Class 4 was for three exotic Ferns, and produced good competition. The plants exhibited by Mr. John Smith, which worthily won first honours, were grand specimens. They were *Adiantum farleyense*, *A. cuneatum*, and *Davallia fijiensis*. Second, Mr. G. Barry. In the same tent were shown excellent collections of Zonal Pelargoniums, double and single Fuchsias, Tuberous Begonias, and Coleus. The prizes in these classes were pretty equally divided between Mr. H. Rogers, Gipsy Lane Nursery, Leicester; Mr. James Wright, nurseryman, Thurmaston; and Mr. John Smith.

Tent No. 2 was devoted to fruit and vegetables in the open class. In that for eight distinct dishes of fruit there were five collections staged, the first prize being taken by Mr. J. H. Goodacre, Elvaston Castle Gardens, with a fine lot, consisting of three varieties of Grapes, two bunches of each, Muscat of Alexandria, Muscat Hamburgh, and Black Hamburgh, medium-sized bunches, berries not large but well coloured; Dymond Peach, Lord Napier Nectarine, an excellent Smooth Cayenne Pine, a very fine Melon (Read's Scarlet Flesh), and Negro Fig. Second, Mr. P. Blair, Trentham Gardens. Third, Mr. J. McIndoe, Hutton Hall Gardens. Fourth, Mr. J. Edmonds, Bestwood, Notts. The names of the exhibitors are a sufficient guarantee of the quality of the exhibits. For four dishes of fruit, Pines excluded, Mr. McIndoe was first, Mr. Goodacre second, Mr. P. Blair third, and Mr. C. Slade, Clumber Gardens, Worksop, fourth. In a class for one Pine there were some good fruits shown. First, Mr. Slade; second, Mr. Goodacre; third, Mr. P. Blair. In the respective classes for two bunches of black and for two bunches of white Grapes the entries were numerous, and some splendid fruit was shown. For two bunches of Black Hamburgh.—First, Mr. A. MacVinish, Lockington Hall Gardens; second, Mr. C. Slade; third, Mr. J. McIndoe. Two bunches White Muscat of Alexandria.—First, Mr. A. MacVinish; second, Mr. J. McIndoe. Two bunches black Grapes, Hamburgs excluded.—First, Mr. J. McIndoe, with grand Alicantes. Six Peaches.—First, Mr. W. H. Divers; second, Mr. G. Barry. Six Nectarines.—First, Mr. J. Edmonds; second, Mr. J. H. Goodacre. One dish of Figs.—First, Mr. W. H. Divers. One dish of Cherries.—First, Mr. W. H. Divers. One dish of Strawberries.—First, Mr. W. H. Divers. One Melon, Green Flesh.—First, Mr. C. Slade. One ditto, Scarlet Flesh.—First, Mr. J. Edmonds. With twenty-four Tomatoes there were many entries, mostly of high quality.—First, Mr. A. J. Smith; second, Mr. J. Edmonds; third, Mr. J. Read. Currants and Gooseberries were shown in great numbers, and were generally of good quality.

The vegetables were indeed a fine display. For the collection in the open class Mr. A. MacVinish was placed first with a most meritorious exhibit, consisting of Cauliflowers, Celery, Cucumbers, Tomatoes, Peas, Scarlet Runner Beans, Potatoes, Leeks, Turnips, Carrots, and Onions, all good throughout, well arranged, and finely set up, on a groundwork of

Parsley; Mr. Underwood, gardener to Mr. R. Walker, was second; and Mr. R. Shaw, gardener to the Marquise de Saliceto, third. There were seven collections. In the class for a dish of twenty-four Tomatoes there was keen competition and a fine display. First, Mr. A. J. Smith; second, Mr. J. Edmonds; third, Mr. J. Read, gardener to the Earl of Carnarvon. Potatoes were very extensively shown in all the classes devoted to them, and were generally of very good quality.

Probably the greatest interest of the Show was centred in the tent devoted to Roses and cut flowers in the open classes. The display of Roses was magnificent, the best which has yet graced the tables of an Abbey Park Show. The weather of late having been especially favourable the flowers were in nearly all cases of very fine quality, fresh, and brightly coloured. In the principal class for thirty-six blooms, dissimilar, Messrs. Harkness and Sons were first with grand flowers. Amongst the best in the stand were Madame Margottin, Marie Baumann, Comte Raimband, Beauty of Waltham, Horace Vernet, Alfred Colomb, Madame C. Crapelet, and Duchess of Bedford. In this stand also was a bloom of the sport Merrie England, described in our report of Chester Show. Messrs. Perkins and Sons of Coventry were second in this class; third, Messrs. Mack and Sons, Caterick; and fourth, Mr. H. Merryweather, Southwell, Notts, six collections being staged, all of a high order of merit. For twenty-four Roses, single blooms, dissimilar, Messrs. Perkins & Son were first; second, Messrs. Harkness; third, Messrs. Mack & Sons. For twelve Teas or Noisettes.—First, Messrs. Harkness, with a grand lot; second, Mr. H. Merryweather; third, Messrs. Perkins. For twelve blooms of one variety Messrs. Mack were first with a superb box of A. K. Williams. Second, Messrs. Harkness, with Marie Baumann. Third, Mr. H. Merryweather also with Marie Baumann. In a class for eighteen varieties, amateurs' and gentlemen's gardeners, the Rev. J. H. Pemberton, Havering-atte-Bower, was first; Mr. W. Boyes, Derby, second; and Mr. W. Drew, Ledbury, third. Mr. Pemberton was also first in the class for twelve Roses, dissimilar, and for six Teas Mr. H. V. Machin, Worksop, and Mr. Boyes were second in those classes; and Mr. Lansdell, the Gardens, Barkby Hall, third.

Double and single Begonias, cut flowers, were well shown; the prizes going to Mr. John Forbes, Hawick; Mr. W. Lewis, The Gardens, Tintern House, Leicester; and Mr. Lansdell. There was a very fine display of memorial wreaths, bouquets (bridal and ballroom) and dressed epergnes. In each of these classes the first prize went to Messrs. Perkins, Coventry; second, Mr. W. K. Woodcock, Barkby Road Nurseries, Syston, Leicester; third, Mr. John Mawby, Victoria Nurseries, Leicester. For ladies' sprays there was keen competition and many entries. First, Messrs. Perkins; second, Mr. H. Rodgers, Gipsy Lane Nurseries; third, Mr. W. K. Woodcock. For twelve bunches of stove or greenhouse flowers Mr. P. Blair was first, Mr. Mawby second, and Mr. J. Smith third. With twelve bunches of hardy border flowers there were numerous competitors and a fine display. First, Messrs. Biddles & Co., Loughborough; second, Messrs. Laxton, Bedford; third, Mr. Lansdell; the last named being also first for twelve bunches of Zonal Pelargoniums.

The amateurs' tent was well filled with excellent exhibits in both plants and cut flowers, but space forbids details. The most successful exhibitors, however, were Mr. W. Bell, Knighton; Mr. J. Goadby, Mr. Royce, Messrs. Whittle, Makepeace, Jackson, Yeomans, Sibson, Hassell, Beal, and Ward. Amongst the numerous miscellaneous exhibits Mr. Wm. Whitehead, Secretary of the Leicester Pansy Society, received a bronze medal for a splendid display of cut flowers containing upwards of twelve dozen dissimilar varieties, including nearly all the best named varieties Show and Fancy. The flowers throughout were large, stout, and in the best possible condition. Messrs. B. S. Williams & Son, London, were awarded a gold medal for a very fine group containing a superb collection of insectivorous plants, which were extremely interesting to the public. Silver medals were awarded as follows:—To Mr. John Forbes for collections of cut flowers, Pelargoniums, Verbenas, Violas, and Pansies; to Messrs. Yarde & Co., Northampton, for collections of cut flowers and hardy border annuals; to S. Bennett, Esq., for a fine group of decorative plants; and to Mr. Salisbury, Melthorne, Derbyshire, for a fine collection of Gooseberries and Currants. A certificate was also granted to the same exhibitor for a new Raspberry named Salisbury's Seedling, a very large dark red variety apparently very fruitful. A dish of picked fruit surrounded by a large number of very heavily laden fruiting laterals was shown. It seems likely to be a very valuable addition to our not too numerous list of good Raspberries. The arrangements and conduct of the Show were very good, thanks very much to the able Secretary and Curator, Mr. John Burn.



FRUIT FORCING.

Vines.—*Early Houses*—Vines that have been forced to ripen their fruit in May or early June have the wood ripe. Some of the leaves may also have fallen through ripeness, which generally are the first formed, as these from their thin texture have poor elaborative power, so that the

buds in their axils are often ill nourished, and the show of fruit from close pruning is unsatisfactory. There are other causes for the basal leaves being shed early, such as infestations of red spider, insufficient supplies of water, and lack of nourishment. These must be guarded against, but under the best of treatment some of the lower leaves fall early from no other cause than their thin texture, whilst the laterals which are formed later have stouter foliage; these are useful, not only in appropriating surplus sap, encouraging root action, and preventing the starting of the pruning buds, but in assimilating nutrient elements, some of which find their way to the leafless buds, as is seen in their plumping and in the thickening of the adjacent wood. No attempt must be made at removing the foliage from the principal buds, nor to cut the laterals close in, as that would probably cause the principal buds to start; therefore remove the laterals by degrees and shorten some of the long shoots, preserving, however, some growth above the buds to which the Vines are to be pruned, deferring the final pruning until the early part of September.

Root Assistance.—When the Vines are weakly it is a good practice to remove the surface soil down to and fork it from amongst the roots, taking the opportunity of raising any that are deep and laying them in fresh turfy loam nearer the surface. Good calcareous loam is the best, or one-sixth of lime rubbish may be added where lime is deficient and the soil heavy. If the soil be light and gravelly, add a sixth of clay marl dried and pounded. A bushel of wood ashes and half a bushel of steamed bone meal may be added to every cartload of the loam, but these substances are best applied as surface dressings. Give a moderate watering; fresh roots will push, especially from near the collar, into the soil at once, and be in capital condition to support a good start in the Vines when the time comes round. This border renovation, also lifting, should be performed whilst the leaves are on the Vines, for when deferred until the leaves are all down the start is not nearly so satisfactory. If the weather is bright the house will need shading and keeping rather close and moist for a few days.

Midseason Houses.—The Vines have had favourable atmospheric conditions upon the whole this season, and have perfected or are ripening satisfactory crops. There is no country in which finer Grapes and cheaper can be grown than in the United Kingdom. We ought to be able to export Grapes which would meet a ready sale in the opulent cities of the Continent and in America, for in bloom, colour, superb finish and size, British Grapes are unequalled. Where the Grapes are ripe air should be freely admitted, and enough afforded at night to insure a free circulation. If water is needed supply it early on days that promise to be fine, and with a free ventilation the moisture will not do any harm, but favour the keeping of the Grapes in a sound condition. It is stagnant air—the deposition of moisture on the berries—that causes the Grapes to spot and decay. A slight shade, such as that of a double thickness of herring net drawn over the roof lights, is necessary to prevent the sun taking the colour out of Black Hamburg and other black Grapes, especially where the foliage is thin. Grapes commencing to colour need a free circulation of air in the daytime, and enough at night to insure a change of atmosphere, a gentle warmth in the hot-water pipes often being necessary when the weather is cold or damp both day and night. Copious supplies of water and occasional supplies of liquid of a sustaining nature will be needed until the Grapes are well advanced in colouring, and then the inside border may be mulched with a little short dry material, which will absorb moisture arising from the border, keep it evenly moist, and prevent its cracking. The border, however, must not be allowed to become dry or the Grapes will shrivel, and no amount of water will restore them to plumpness, whilst the Vines are weakened, and the succeeding crop more or less prejudiced.

Late Houses.—Full supplies of water and feeding at the surface are necessary until the Grapes are coloured up to the footstalk, for many, indeed most, late Grapes appear ripe when they are only partially finished. Late Grapes take a long time to finish properly, and too early stopping the supplies of food manifests itself in the berries shrinking at a late period. All late Grapes require time; they ought now to be well advanced in colouring, then, with a circulation of warm rather dry air constantly and a thoroughly moist condition of the soil, they will swell and finish well. Poverty is the cause of Mrs. Pince not colouring, and it is the chief cause of shrivelled Muscats even before they are ripe, and of others shrinking after they have hung some time. Afford a temperature of 70° to 75° by day artificially, 80° to 90° with sun, and close sufficiently early to increase to 90° or 95°. When the sun is losing power afford enough air to insure a circulation, and allow the temperature to gradually cool, which prevents moisture depositing on the berries, as they are warmer than the atmosphere whilst the air is cooling, and this rests the Vines. The hot-water pipes should if necessary have a little warmth in them to prevent the night temperature falling below 65°. Pay particular attention to the early ventilation of the house, for when this is neglected the sun heats the atmosphere more quickly than the berries, and they become covered with dew through the moisture in the air being condensed on their cooler surfaces, therefore increase the ventilation early with the advancing temperature.

Melons.—In pits or frames the last hatch of plants will have set or be setting their fruit, and it is necessary that these plants have every encouragement, for late Melons are about as flavourless as Pumpkins unless quality is developed in them whilst the sun has considerable power. Where the setting is not effected the growths should be kept rather thin, the atmosphere warm and rather dry by the aid of linings, so as to insure steady progress and the free admission of air. Plants in

hot-water heated pits should have a gentle warmth in the pipes on cold nights and on dull wet days; this affords facilities for ventilation, and a little ought to be given to prevent the deposition of moisture on the flowers. When the fruit is set the plants may be sprinkled early in the afternoon of fine days, avoiding the collar of the plants. Close by or before the temperature has receded to 80° or 85°, and so as to raise the temperature to 90° or 95°. Admit a little air at 75°, increase it with the advancing temperature to 85° or 90°, which maintain through the day from sun heat. Attend to frames for linings with sweetened fermenting materials as the nights become cold, so as to prevent the temperature falling below 65° in the morning. Place mats over the lights after the sun leaves the frames in the evening, and remove them shortly after the sun has risen. This will cause the fruit to attain to greater perfection than is usually the case with late Melons in frames.

Melons in Houses.—Fire heat will be necessary to maintain a night temperature of 65° to 70°, and 75° in the daytime. Afford sufficient water to keep the soil moist whilst the fruit is swelling, but after it is full-sized no more should be given at the roots than is necessary to keep the foliage healthy till the fruit is perfected. A too dry atmosphere whilst the crop is swelling keeps the fruit constantly evaporating and hardens the rind, causing it to crack if the weather prove moist when it is ripening. Moisture with judicious ventilation keeps the fruit in steady progress. Stop the laterals to one joint, and rub off all superfluous shoots as they show, allowing nothing to interfere with the principal leaves, or to retard the swelling of the fruit. Plants with the fruit advanced for ripening should be kept rather dry at the roots and have air liberally, with an advance of temperature, avoiding a close atmosphere at night, which after a spell of bright weather causes the fruit to crack and militates against the quality of the Melons.

Late Melons in Houses.—The plants will be put out and growing freely. The leader ought not to be pinched until it reaches the trellis, when it may have its point taken out if more than one leader is required, or if only one leader is wanted it may be allowed to advance two-thirds up the trellis and then be stopped, removing every alternate lateral on opposite sides of the stem directly they can be handled. Maintain a moist atmosphere and keep the roots well but not excessively supplied with water. Provide a temperature of 70° to 75° by artificial means, falling to 65° at night, and keep the bottom heat steady at 80° to 85°. Canker at the collar is often troublesome; it is mainly due to excessive moisture there and on the stem, and once established is difficult to subdue, but it may be held in check by rubbing quicklime into the affected parts, repeating as necessary.

THE KITCHEN GARDEN.

Celery.—Allowing the plants to attain a great size where they are pricked out is certain to weaken them considerably, much-drawn plants flagging badly when moved. All ought now to be in the trenches and growing strongly. Easterly winds and bright sunshine cause a rapid evaporation and loss of moisture, and Celery ought to be watered very freely and often, especially when the trenches are full of hungry roots, liquid manure also doing good. The evening is the best time to water, and there should be no stint about it, even those that are about half moulded up requiring abundance of water far more often than they get it. Soot freely dusted among the plants and washed in is both a good fertiliser and preventive of slug attacks, while good dustings, applied when the dew is on the leaves, will keep away the Celery fly, few or no leaf-mining maggots being seen accordingly.

Blanching Celery.—Celery required for the early shows will have been already either earthed up or bandaged round with several folds of brown paper—the latter being the surest way to obtain clean yet perfectly blanched stalks. For ordinary purposes papering round is also to be commended, though not if extra large quantities are required. Celery that is to be ready for use from a month to six weeks hence ought now to be well advanced in growth and partially moulded up, taking care that this process is not much in advance of the heart development, or bulging and splitting will result, successional rows to have the lower small leaves, suckers, and weeds cleared away, and after a liberal dressing of soot has been given this should be followed by a good soaking of water. Next day bring the outer leaves lightly up together, and chop down 2 inches or rather more of soil about them, this serving to prevent the plants opening out too much, also as a muleh, and gives something for the surface roots to lay hold of. Neglect this precaution, and the chances are the leafstalks will become set in a somewhat horizontal position, and split when drawn up together later on.

Celeriac.—Seedlings being first pricked out similarly to the ordinary Celery ought ere this to have been transplanted to a good open well manured plot of ground, or they may be planted in close succession to early Cauliflowers. Seeing that they are grown for their Turnip-like roots, the system of culture adopted should be of a character to promote such root-growth rather than the formation of extra strong leaves. No mistake will be made by planting very firmly on the level, 18 inches apart each way in the case of the old form, and 3 inches less when the Apple-rooted large Prague or other continental varieties have rightly been preferred to the former. Subsequent culture merely consists of watering freely during dry weather and surface hoeing of the ground.

Cabbage.—If the first sowing has not been a success, another ought always to be made directly it is seen that such is the case. There is also a possibility of the sowing made about the middle of July or following week being too early, and more seed should be sown during either the first or second week in August. It is a mistake to sow either in a very sheltered spot or very thickly, the aim being to raise abundance

of sturdy plants that will not require to be first pricked out into nursery beds. Pricked out plants never move so well as do those drawn from a seed bed, after the latter has been moistened thoroughly either by watering or rains, and replanted with a dibber. It is better, however, to temporarily prick out a good portion of early raised plants than allow them to spoil each other in the seed beds. Seeing that pricked out plants must be moved with a ball of soil and roots they ought to have the benefit of fine freely worked soil, anything that is hard or lumpy not answering.

Onions.—Tripolis, autumn sown, are now nearly fully grown, and in many cases would be improved in appearance and mature more quickly by having their necks boldly twisted down. Directly they come away freely from the ground, the roots having then done their duty, the bulbs are better off the ground than on, too much moisture causing them to root afresh, thereby greatly impairing their keeping properties. Harvest them well on dry walks, boards, or shutters prior to storing. The ground they come off to be surface-hoed, and at once planted with Coleworts, or quickly hearting small Cabbage, put out 1 foot apart each way. Spring-sown Onions ought now to be thickening at the base rapidly. If somewhat crowded, draw out any that do not promise to bulb well for present use; also remove any badly mildewed or grub-eaten, burning these, the rest of the crop being freely dusted over with a mixture of soot and newly slaked lime. The more advanced in growth, with their stems still erect and stiff, may well have these twisted down, the best roots and the quickest to mature being those that have small necks.

Garlic, Shallots, and Underground Onions.—Directly the tops of these have died down lift and harvest the roots. Neglect this precaution, and they will root afresh, and not keep well. These also may be followed by Coleworts, and in warm localities Savoy may yet be planted instead of Coleworts.

Potatoes.—All the early varieties ought now to be quite fit for lifting and storing. There is no necessity to wait till the tops are dead or the skins quite hard set, and clearing them off early may be the means of saving them from the disease. At present there are no signs of the latter, but it may put in an appearance after a few dull rainy days. Ashleaves ought certainly to be lifted, and abundance of medium-sized tubers saved for planting next season. There should be no attempt at greening seed tubers, exposure to light and air not unfrequently resulting in their becoming diseased. Store them thinly in a cool light shed, while those to be eaten should be placed in heaps and kept dark and cool. Potatoes maturing rather earlier than usual will afford good opportunities for close successional cropping. The ground should be well forked over during the process of lifting, all lumps being broken down, levelling and clearing it of rubbish, completing all the preparation needed for Winter Turnips, Strawberries, Endive, Spinach, Leeks, or even late-raised Broccoli, Savoy, and such like.

Winter Spinach.—Now is a good time to make a fairly large sowing of winter Spinach, more seed being sown a fortnight hence. This important crop requires and ought to have a well prepared site, anything in the shape of poor lumpy ground not suiting it. Stir soil freely into the surface, at the same time reducing the soil to a good depth to a thoroughly finely divided state. Sow Victoria in drills drawn 15 inches apart, 3 inches less space usually being sufficient for the smaller-leaved prickly seeded and round-seeded varieties, both of which are suitable for present sowing.

THE BEE-KEEPER.

APIARIAN NOTES.

FAULTY COMB FOUNDATION.

"R. M." sends me a sample of comb foundation with the name and address of the dealer, wishing me to expose him in the *Journal of Horticulture*. The proper course is for purchasers to buy from dealers or firms of good reputation or on terms that would prevent purchasers being imposed upon. The foundation is principally composed of tallow, resin and a small portion of mineral or vegetable wax. One of the objects of bee societies should be to protect bee-keepers from fraudulent dealers.

OLD IDEAS AND NEW NOTIONS.

I am pleased to see Mr. Meadows appearing in a friendly attitude. I am quite aware that it is unfair to conceal anything of benefit to the public, but the frames in question were sent out by me by the thousand thirty years ago, and that is not concealment. I give the readers of the *Journal* the benefit of all useful things I possess and conceal nothing. I made an extractor different from any others, but used it so little that I destroyed it.

FEEDERS.

Some recent introductions are not so new as modern apiarians imagine. I have one I should say 150 years old made on the same principle as some of the so-called new ones, and others exactly similar to the so-called "Rapid Feeders," and have used them for

forty years or more. I show all I possess to everyone who pleases to call on me, and who, like Mr. Meadows, holds out the right hand of fellowship. It was one of the rules of our Society (broken through by dealers) that all articles new in idea and exhibited were to be registered to prevent acrimonious correspondence founded on claims of originality.

SWARMING AFTER DRONES ARE KILLED.

"J. S. Boswell" asks if I ever knew a hive of bees to swarm after they had killed their drones. My reply is, Yes. He also asks if I ever had a natural swarm in August. Again I answer Yes, and till the 15th of September.

SUPERIORITY OF PUNICS.

We have had several days' more favourable weather, but as bees do not gather honey until the temperature is at 65° to 75°, and as it has seldom been above 50° very little honey has been gathered, only as much as will put the bees in good trim for the Heather. Indeed, so bad has the season been that many hives have neither swarmed nor gathered as much honey as will carry them through the winter. It has also been of poor quality, and by the time it is sealed it will not represent more than one-third the bees gathered. In every case of weighing they lost one-half during the night that they gathered the day previous. Crossed Punics are in every case, except with crossed Syrians, the richest in honey. One prime swarm less than half a mile distant has filled nearly to completion eight 6 lb. supers; its contents being 50 lbs., this is by far the best in the district. My first test failed on account of the queen of the Punic swarm being a virgin, and the weather being unpropitious she was lost. The contents of a Carniolan swarm pitted against it are 45 lbs. This is a superior strain of the first imported Carniolans, and never sting. Another test is a pure Punic and a pure Carniolan. The former are ahead of the latter with their supers. This strain of Frank Benton's Carniolans is inferior to my other strain, and sting more readily; they are, I believe, the descendants of a cross of some sort.

Those who deny the superiority of crossed Punics might as well deny their own existence. The pure ones are good, too; but to manage them properly, and prevent them causing any annoyance, all superfluous queens and queen cells should be destroyed, so that they will work with vigour, and prevent robbing. The Punics are no worse than other varieties in this respect, but the number of queens aggravate the offence. This is the only fault I can find in them, and I state it as freely as I do their virtues. The opinions of strongly prejudiced persons can have little weight.

WHAT OTHERS THINK.

Lately several individuals have spoken to me about the strictures in another paper. One gentleman brought me three numbers of it, to show me, as he said, the spite it contained. I do not know why I should be attacked or coupled with "A Hallamshire Bee-keeper," who is personally a stranger to me. A vile accusation was printed against me, signed J. D. McNally, the Editors stating at the time that "they did not even know the writer." The charges referred to were publicly apologised for by Wm. McNally of Glenculce as "being false." I laid the case before a meeting of the C. A. Society, and Major R. J. Bennett exonerated me from every one of the charges. At this stage J. D. McNally, after denying being the author of the article, produced a letter from one or both of the Editors, urging him on with the disreputable literature. I care nothing for any of the gentlemen named. I speak and write only what I know to be true. I therefore repudiate the charges made. It would have saved Mr. Cowan both trouble and expense to have procured Punic bees in England, and tested them there. The good or bad qualities of bees cannot be known in their native country apart from other bees. We must bring them side by side in some place in Great Britain, just what I am doing in the interest of bee-keepers, not of dealers, either in Hallamshire or anywhere else.—A LANARKSHIRE BEE-KEEPER.

FERTILE WORKERS—THEIR UTILITY.

ON page 112 for August 4th, "A. L. B. K." seems to have made a discovery, and seems to think that the drones produced by fertile workers are to mate with queens.

It is now nearly ten years since I discovered and published in another journal that fertile workers and queens would live peaceably and lay eggs side by side. When I made this discovery I looked far beyond what our friend suggests for a solution of their use. I asked myself how it was that if anything happened to the young queen while on her mating trip, no means were at hand for the bees to requeen themselves? I noted many observations, and at length came to the conclusion that bees had the means of requeening themselves by means of fertile workers. I have had Punic bees rear so many queens from the eggs of

fertile workers that I am quite prepared to take my stand on the truth of the discovery. In one case a number of Punic worker bees entered a stock of queenless Carniolans and reared a queen from the eggs they laid. This queen is in the British Museum.

If "A. L. B. K." will make up a stock of Punic bees absolutely queenless, and see that there are some drones in, as these seem to be necessary, in as natural a manner as possible, compared with a stock that lost its queen on a mating trip, the bees will soon be busy laying and rearing queen cells. If any of these seem natural, *i.e.*, not long ones, but just like ordinary queen cells, queens will most certainly be found in them, and not only so, but numbers of worker bees will hatch from worker cells. Hence, Punic worker bees have the power to raise both queens and drones from themselves. The instinct seems perfect in Punic bees, only partly so in Syrians, and quite absent in our native bees. I cannot go into the matter just now, but should like as many as possible who have these bees to confirm my discovery, incredible as it may seem.

I notice the gentleman who has acquired such a reputation for "accuracy" says these are not a new race, and were known as far back as 1885; this was the year Punic bees were first seen alive in this country. No other person, other than myself, has ever imported a bee alive from Tunis, and no other person has introduced them into this country or America. I sold the first in 1890, after first testing them, yet I am now told they are not "new." What next? —A HALLAMSHIRE BEE-KEEPER.

TRANSFERRING BEES.

I HAVE a stock of bees in an old straw skep which I should like to transfer to a Stewarton hive, as the old skep is very much worn. I should, therefore, feel obliged if you would kindly let me know when would be the best time to make the change and how I should proceed.—AN AMATEUR.

[It is difficult to advise as to when is the best time to transfer bees, this depending upon the state of the queen and the amount of brood there may be in the hive. Unless the queen is one of the current year she should not be kept. Drive the bees from the straw hive at once, then begin at one side and remove comb by comb until brood is seen; put these combs carefully aside upon their edge so as not to crush the seals. Now lay the Stewarton bars upon their top above two or more pieces of tea twine, placing the combs upon them so that they will hang in their original position. Catch the two ends of the twine, and tie them tightly or till the twine takes a catch of the comb by the dragged portions, or lay a bit of thin spale and tie over it. If there is honey in the removed combs use it and melt the others. If there is no brood turn the bees into the hive without more ado with comb foundation, but do not depend upon an aged queen, then feed up. If you have drones in plenty you might do worse than try a Punic queen; I am certain you will not regret it. I have a great deal more evidence in favour of crossed Punics. They are the best wherever they are. I shall require another season to prove the pure ones, or perhaps the Heather may do so this one. The season could not be worse to test them fairly.—A LANARKSHIRE BEE-KEEPER.]



*All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Incipient Cucumbers (*No Name*).—We have received a parcel containing examples of Cucumbers shrivelling instead of swelling, but no letter in reference to them.

Disqualification of Fruit (*A. B.*).—If the fruit in the collection had to consist of the same kinds alone as are mentioned in the preceding classes (as is implied but not stated so clearly as it might be), you were rightly disqualified. We doubt if the other exhibitors could have been excluded on the grounds you suggest under the somewhat unprecise wording of the schedule.

Parisian Parks and Gardens (*Frenchman*).—We have no doubt young English gardeners occasionally find employment in France, in fact we know some have done so who knew little or nothing of the

French language, but we believe they are not sought for. Wages are low and working hours long. A nurseryman who does business with a French house may possibly give you an introduction if you are well known to him.

Rosa Polyantha Seed (W. S.).—We regret our inability to give the name of the French nurseryman who sent seeds to an American cultivator as described on page 49 of our issue of the 21st ult. We are not aware that seeds are sold in England. Possibly Messrs. Vilmorin, Andrieux & Cie, 4, Quai de la Mégisserie, Paris, might be able to supply them. As you are probably aware, the charming little Polyantha Roses may be readily increased from cuttings.

Keighley Queen Raspberry (John Carter).—The samples arrived in a very different condition than you intended. Nine-tenths of the berries were spoiled, but the few uninjured were very fine, and the sprays had been loaded with them. If you consider the variety an improvement on your Carter's Prolific, as we suspect it is, good specimens should be placed before the Fruit Committee of the Royal Horticultural Society, and the variety should be added to the Chiswick collection for trial in the gardens.

Croton Leaves Falling (C. A.).—You fail to indicate the conditions under which the plants are grown. The leaves will become "spotted and fall" through (1) the attacks of insects or deleterious fumes; (2) defective root-action, the result of unsuitable soil or defective watering; (3) an excessively dry or excessively moist atmosphere; or (4) a too low temperature. With a little examination and reflection you ought now to be able to discover the cause of the evil. When the plants are properly attended to in suitable structures they develop clean, handsome, persistent leaves.

Melons (Disappointed).—So far as we understand your statement you took off the wrong flowers for pollen. Those with a swelling at the base—the embryo fruit—should be retained and pollen applied to them from the flowers that are simply borne on short thin stalks. The latter are what are called the male flowers, and it does not matter whether the pollen is applied to the fruit bearers with a small brush or not so long as it reaches the pistils of those for which it is intended. Try again, and if you have sufficient heat for sustaining healthy growth you may yet have good Melons late in the season.

Worms in Pots (H. J. H.).—You ask for reference to an advertisement for "killing worms in pots." We are unable to find a specific advertisement on the subject. Mr. A. Porter, Stone House, Maidstone, has advertised his worm excluders, and they are good for the purpose. On the front page of the last and several issues you may find an advertisement under the heading of "Slugicide." This may be worth trying. We test everything of this nature on weeds or plants of little worth before applying generally to plants of value. If any other advertisements such as you wish to see can be pointed out as having appeared in our columns, we will give the references to them if these are supplied.

Disqualified Bouquet (J. L.).—The class stipulates for the "best bouquet of garden flowers." You employed Maidenhair Fern, presumably *Adiantum cuneatum*, and were disqualified. This is certainly not a "garden flower," and the judges decided accordingly. But if they acted with equal strictness all round they would disqualify all bouquets that contained a fringe of leaves of any kind, for if used alone—that is, without flowers on the same sprays, they would be outside the terms of the schedule. Some schedules state that Fern is admissible in such bouquets, and undoubtedly a little greenery of some kind improves them. We have seen autumn-tinted Carrot leaves pleasingly associated with flowers, but under the terms of the class quoted they would not be eligible, though some judges would in the exercise of their discretion, overlook the technicality. If you had handed a written protest to the Secretary before four o'clock, the Committee would have settled the matter, as they are entitled under regulation 9. It would be better to say whether Fern is admissible or not in the class, and so avoid possible misunderstandings.

Muscat Grapes Failing (C. R. P.).—The Grapes have set badly, stoned imperfectly, and are seriously scalded. Unbeated houses are not suitable for the Muscat of Alexandria, nor is it prudent to leave the door of your vinery open all night. The berries have become so cold that moisture has been deposited on them in the form of dew, and they were then injured by the evaporation that followed during bright sunny days. We are rather surprised the other varieties are doing so well, and are by no means certain they will finish as satisfactorily as is desirable. Instead of leaving the door open leave the top ventilators open to the extent of an inch or so, admitting more air in the morning when the temperature approaches 65° as indicated by a shaded thermometer. Maintain a day temperature of about 80° with ventilation, when the weather permits, and close early in the afternoon, so that that temperature is maintained as long as possible. The house should not be damped late, but the paths and other surfaces should be dry before nightfall. At that time the top ventilators may be opened a little, or the house might perhaps remain closed till too late in the morning, a too common cause of injury to Grapes in the vineries of amateurs.

Names of Fruits.—*Notice.*—Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to

be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. (W. W. Buseot).—We are unable to name the Peach, but possibly we might have been able to discover its identity if you had stated the character of the flowers—large or small. This is an essential condition, as was indicated on page 112 last week.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (Thirty-years Subscriber).—*Cattleya guttata* Prinzi. (R. R. P.).—No. 1 is *Gongora galeata*. We are not sure about the others in the absence of flowers or some particulars about the plants.

TRADE CATALOGUES RECEIVED.

Messrs. Clibran & Son, 10 and 12, Market Street, Manchester.—*Bulbs.*

Messrs. W. Cutbush & Son, Highgate, London, N.—*Bulbs.*

Messrs. Little & Ballantyne, Carlisle.—*Bulbs.*

Messrs. J. R. Pearson & Sons, Chilwell, Notts.—*Bulbs.*

Messrs. Ant. Roozen & Son, Overveen, near Haarlem, Holland.—*Bulbs.*

MM. Vilmorin, Andrieux, et Cie., 4, Quai de la Mégisserie, Paris.—*Bulbs and Strawberries.*

COVENT GARDEN MARKET.—AUGUST 10TH.

BUSINESS getting quieter, with supplies falling off.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.		
Apples, half sieve	1	9	to	4	0	Lemons, ease	10	0	to 15	0	
Currants, Red, half sieve..	2	3			0	Oranges, per 100	4	0		9	0
„ Black, half sieve	4	0			6	Peaches, per dozen	2	0		8	0
Grapes, per lb.	0	9			2	St. Michael Pines, each ..	3	0		6	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Beans, Kidney, per lb. ..	0	3	to	0	4	Mustard and Cress, punnet	0	2	to	0	0
Beet, Red, dozen	1	0		0	0	Onions, bunch	0	3		0	5
Carrots, bunch	0	4		0	0	Parsley, dozen bunches ..	2	0		3	0
Cauliflowers, dozen	2	0		3	0	Parsnips, dozen	1	0		0	0
Celery, bundle	1	0		1	3	Potatoes, per cwt.	2	0		5	0
Coleworts, dozen bunches	2	0		4	0	Salsify, bundle	1	0		1	6
Cucumbers, dozen	1	6		3	6	Scorzoneria, bundle	1	6		0	0
Endive, dozen	1	3		1	6	Seakale, per basket	0	0		0	0
Herbs, bunch	0	3		0	0	Shallots, per lb.	0	3		0	0
Leeks, bunch	0	2		0	0	Spinach, bushel	3	0		3	6
Lettuce, dozen	0	9		1	0	Tomatoes, per lb.	0	2		0	4
Mushrooms, punnet	0	9		1	0	Turnips, bunch	0	3		0	4

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.

Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.		
Arum Lilies, 12 blooms ..	2	0	to	4	0	Maidenhair Fern, doz. bchs.	4	0	to	6	0
Asters, French, bunch ..	0	6		1	0	Myosotis or Forget-me-not,					
Bouvardias, bunch	0	6		1	0	dozen bunches	2	0		3	0
Carnations, 12 blooms ..	0	6		2	0	Mignonette, 12 bunches ..	1	0		3	0
Carnations, Malmaison, 12						Orchids, per dozen blooms	2	0		8	0
blooms	1	6		6	0	Pansies, dozen bunches ..	1	0		2	0
Carnations, dozen bunches	4	0		6	0	Pelargoniums, 12 bunches	4	0		6	0
Cornflower, dozen bunches	1	6		3	0	„ scarlet, 12 bunches	3	0		4	0
Eschscholtzia, doz. bunches	2	0		3	0	Pinks, dozen bunches ..	2	0		4	0
Eucharis, dozen	2	0		4	0	Poppies (var.), doz. bunch	1	6		6	
Fuchsias, per bunch	0	6		1	0	Primula (double) 12 sprays	0	6		0	9
Gardenias, per dozen ..	2	0		4	0	Roses (indoor), dozen ..	0	9		2	0
Gypsophilas, French,						„ (outdoor), doz. bunch.	2	0		6	0
large bunch	0	9		1	0	„ Red, per doz. blooms..	1	0		2	0
Gypsophilas, English,						„ Tea, white, dozen ..	1	0		3	0
small bunch	0	3		6	0	„ Yellow, dozen	2	0		4	0
Lilium longiflorum 12						Stocks, dozen bunches ..	3	0		6	0
blooms	2	0		4	0	Sweet Sultan, doz. bunches	2	0		3	0
Lilium (var.) dozen						Sweet Peas, dozen bunches	3	0		4	0
blooms	0	6		2	0	Tuberoses, 12 blooms.. ..	0	3		0	6
Marguerites, 12 bunches ..	2	0		4	0						

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.		
Arbor Vitæ (golden) dozen	6	0	to	12	0	Lobelia, per dozen	3	0	to	6	0
Begonia, per dozen	6	0		12	0	Lycopodiums, per dozen ..	3	0		4	0
Calceolarias, per dozen ..	3	0		6	0	Marguerite Daisy, dozen ..	6	0		12	0
Cupressus, large plants, each	2	0		5	0	Mignonette, per dozen ..	4	0		6	0
Dracæna terminalis, dozen	18	0		42	0	Myrtles, dozen	6	0		9	0
" viridis, dozen ..	9	0		24	0	Palms, in var. each	1	0		15	0
Euonymus, var., dozen ..	6	0		18	0	" (specimens)	21	0		63	0
Evergreens, in var., dozen	6	0		24	0	Pelargoniums, scarlet, doz.	2	6		4	0
Ferns, in variety, dozen ..	4	0		18	0	" per dozen	6	0		12	0
" (small) per hundred	8	0		12	0	Rhodanthes, per dozen ..	4	0		6	0
Ficus elastica, each	1	6		5	0	Trailing plants (various),					
Foliage plants, var., each..	2	0		10	0	per dozen	3	0		9	0
Fuchsia, per dozen	3	0		8	0	Tropæolum or Nasturtiums					
Geraniums, Ivy	4	0		6	0	per dozen	4	0		6	0
Hydrangea, per dozen ..	9	0		15	0						



DAIRY REFORMS.

DAIRY schools, creameries, lectures and demonstrations at agricultural shows, are among the most prominent schemes hitherto offered to farmers to enable them to effect improvements in butter making, so as to compete more favourably or upon more equal terms with French and Danish producers, whose butter is imported in such large quantities as to virtually give them the control of the butter trade in this country. It is quite true that what butter is made in British and Irish factories finds a ready sale when placed upon the market in the right manner, but this is a mere drop in the ocean, and is nothing at all like the national effort that must be made to arrest the tide of importation if we would re-establish the trade for home-made butter. The principles which underlie the successful production and sale of high class butter are so simple that there can be no insuperable difficulty in the way, always provided that it is the right one.

What the butter factor wants and will have is a specific guarantee of quantity as well as quality. Once convince him that he may rely upon a steady supply of first class butter of uniform quality, and he will buy fast enough at a price comparatively high to that given for butter of doubtful quality, with which he will have nothing whatever to do. We especially commend this fact to County Council technical committees, who among other things are striving to improve practice in farmhouse dairies. Do they comprehend all the difficulties in the way? Not simply by the instruction of farmers' daughters in dairy schools will they succeed, very much more goes to build up success than churning and working butter. The cows' food and water, the construction and management of the cowsheds, cleanliness of milkers and milk pails, the construction, situation, and surroundings of the dairy, are all factors to success or failure. Then come the questions of milk setting or separation, of cream ripening, of temperature and manipulation. To master and deal with all these things in detail there must be practical experience combined with a knowledge of the principles which underlie the work. In a badly ventilated dirty cowhouse there is not only milk contamination but there are diseased animals much more frequently than is supposed, whose innocent looking milk frequently conveys the germs of disease to humanity. In Denmark these points are so well understood that the cows and all that affects them are kept under regular government supervision; if this were attempted in this country what an outcry there would be about infringement of the liberty of the subject.

County Council's cannot deal with the whole matter without a special Act of Parliament, but they may do much by the establishment of dairy factories in conjunction with dairy schools. This probably would be a prominent feature in the curriculum of such agricultural colleges as may be established, but very little good would be done in that way compared with dairy establishments pure and simple. A conviction that dairy farming must take a much more prominent position with us in the future than it has in the past is our inducement to insist upon the importance of this matter, and we would aim at a sweeping reform, not only in cow and dairy management, but also in the provision of food for the cows. It is but the repetition of an oft-told tale to say that most of the pasture on which cows graze in summer is not half cultivated. Here is a test which will not fail anyone. Pasture which is brown and bare of herbage in winter, which gives useful growth late in spring, or which becomes bare early in autumn, is alike bad; that which is really green in winter and is the converse of poor pasture in spring and autumn is good.

One difficulty in the way of the establishment of factories is an erroneous idea of the cost. We repeat that buildings and plant should cost not more than £700, which is the maximum outlay necessary for a factory of sufficient capacity for the milk of 800 cows. If cows with land and buildings for them are required there would be a proportionate additional outlay, which is easily estimated for, but not so readily obtained. Nor is that the footing upon which it is desirable creameries should be placed. To be really useful, to promote the interest of farmers generally, it should be supplied with milk by them. This is done in the best way under a scheme of co-operation similar to that now in force in the South of Ireland. With the farmers for shareholders all difficulties about money and milk supply vanish; all that is then wanted is skilful management, and a market for the butter, both of which things are easily obtained. There may be some little difficulty at the outset in placing the butter. There ought to be. We have let the trade slip through our fingers into the hands of the foreign producer, and the lost ground cannot be recovered without special effort.

WORK ON THE HOME FARM.

Corn harvest is now in full swing in the southern counties. On August 3rd we saw Wheat being cut with hook and scythe on the Surrey hills, and Oat reaping in a similar primitive fashion a day or two later on the Essex flats. Much of the Oat straw was still unripe, but the practice of early reaping of both Wheat and Oats is highly commendable. Cut at once when the grain is so firm that no milky juice can be squeezed out of it, and then carting and staking should be easily managed. Very much corn is wasted by being left uncut so long that it is shaken off in the reaping and carting. Oats mown green into swathes require turning over once; sheaves set up in shocks should also be turned once, especially if the weather is dull or showery. In real hot harvest weather the dry air soon absorbs any moisture left in the straw, and very little turning is necessary. Let the master give an eye to the making of shocks and see that the sheaves are so well set up as to throw off rain and are not easily blown down. The making of shocks is often left till the evening, when they go up with a rush, and are not always well done.

With a continuance of fair weather there will soon be clear stubbles, over which pigs and sheep are run to clear up fallen corn. Be prompt about this, so that broad-shear, harrows, plough, and cultivator may be at work without the loss of a day. During the next five or six weeks more good may be done upon the land than at any other period of the year. Every possible effort must be made to clean the land, to eradicate all perennial weeds, and to destroy much Charlock where it infests the soil. With the surface at all loose a turn or two with heavy harrows will often work the Charlock seed sufficiently into the soil to induce speedy germination; but when the land is firm shallow ploughing becomes necessary, and when the Charlock plant is visible harrowing across the furrows destroys it and causes another crop to grow.

Take the first clean fallow that can be had for sowing *Trifolium incarnatum*; do not break it up, but sow the seed broadcast, harrow it in, and there should be a full plant well established before winter. Early sowing is essential to ensure a full crop of this useful early fodder crop. Push on ploughing for the sowing of Wheat, Winter Oats, and Rye in September.

METEOROLOGICAL OBSERVATIONS.

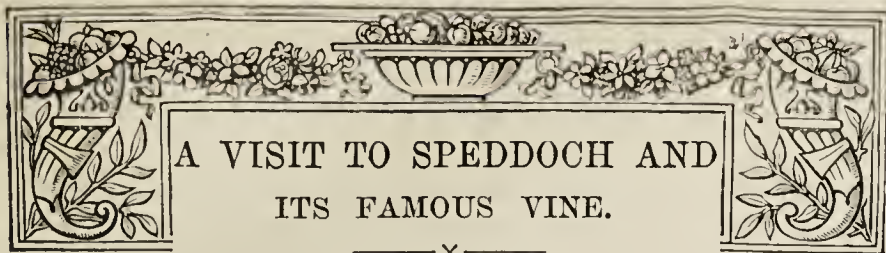
CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.				Rain.
1892. Jnly & Augst.	Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.
Sunday .. 31	30.073	63.8	58.8	N.	62.0	74.9	53.9	121.9	52.0	0.018
Monday .. 1	29.912	64.4	60.3	N.W.	62.4	70.9	58.2	116.3	53.9	0.012
Tuesday .. 2	30.160	59.5	52.4	N.E.	61.4	64.0	51.1	106.3	46.3	—
Wednesday 3	30.112	58.9	55.8	S.W.	60.9	72.4	52.9	121.9	48.1	—
Thursday.. 4	30.063	60.5	53.6	N.W.	61.1	71.0	54.3	121.1	48.2	—
Friday .. 5	30.139	61.1	51.9	S.W.	60.9	75.1	45.4	122.1	38.3	—
Saturday .. 6	29.983	67.6	59.3	S.W.	61.2	73.7	52.1	121.3	45.9	0.085
	30.063	62.3	56.0		61.4	71.7	52.6	117.3	47.5	0.115

REMARKS.

- 31st.—Sunny and warm in morning, cloudy afternoon, slight rain in evening.
 1st.—Spots of rain early, cloudy morning, generally sunny in afternoon but a slight shower at 3 P.M. and again in evening.
 2nd.—Brilliant early, generally cloudy after 10 A.M., spots of rain at 0.30 P.M.
 3rd.—Overcast morning, occasional sunshine in afternoon.
 4th.—Bright and warm.
 5th.—Sunny throughout.
 6th.—Alternate cloud and sunshine in morning with occasional spots of rain, sunny afternoon and evening.
 A rather unsettled week with a good deal of cloud but very little rain. Temperature near the average.—G. J. SYMONS.



A VISIT TO SPEDDOCH AND ITS FAMOUS VINE.

FROM a distance one would hardly imagine that such a lovely place as Speddoch was hidden away among the bleak hills that border the valley of the Cairn. The road from Dumfries, running for the first five miles through the open country, enters this mountainous district at Irongray Church, where the prototype of Jeanie Deans is buried, and where the country parson once ministered to a flock scanty enough to leave him leisure in plenty for his recreations. Then the country becomes wilder and more rugged. On one side are rounded hills, now beginning to put on their imperial mantle of purple Heather, while across the river are thickly wooded slopes, a solid mass of greenery, save where the grey rock appears through the foliage. Mountain streams cross the road at intervals, the dark brown waters of which show the colour of the peat moss, and testify to their origin in the moorlands.

Nine miles from Dumfries the traveller turns aside through a gate, no more pretentious than a dozen he has passed on the road, into a long avenue of Limes and Chestnuts, and soon the quaint old mansion of Speddoch is reached. At first there is apt to be a little disappointment with the long low house devoid of all architectural adornment, to say nothing of the rococo finery of the modern country dwelling. But there is a quiet beauty, a charm of retirement, that gradually steals upon one as the noise of the wheels on the gravel dies away, and the protecting presence of those great trees begins to be felt. In that sheltered nook no rude wind may blow. On the uplands around the storm may rage in all its fury, but down in the valley there is peace. It is not surprising to learn that many plants, which are too delicate to thrive anywhere in the neighbourhood, are to be found at Speddoch in perfectly healthy growth.

On that plain two-storeyed house, for instance, are creepers such as one finds in the favoured climate of the South of England rather than among the bleak hills of Scotland. On one end is a fine plant of *Aristolochia siphon*, which in summer covers the entire gable with its beautiful large foliage, while the other end is clad with the purple blossoms of an old *Wistaria*. Half of the front is covered with a noble *Gloire de Dijon* Rose, yielding upwards of fifty blooms daily for many weeks every summer, and the other half is divided between a splendid specimen of *Clematis Jackmani* and an enormous plant of *Chimonanthus*, the flowers of which scent the whole house in winter when it is in bloom. We are told that within there are many wonderful things in the shape of ancient carved oak furniture, curious weapons, valuable books yellow with age, and antiquarian treasures of many kinds.

Our business, however, is not with the house itself and its contents, but with its surroundings, and we gladly accept the leadership of Mr. Smith, who has been gardener at Speddoch for over twenty years, and knows every plant and tree as one knows the friends of his youth. He points out to us the extensive view, comprising glimpses of the Lowther Hills and the distant cone of Queensberry. He calls our attention to a magnificent purple Beech, the bronze foliage of which shows in fine contrast to the greenery around it; to an Oak of beautiful form, with top rounded as if regularly trimmed, the stem, a yard above the ground, measuring 12 feet in circumference; to a Douglas Spruce, only some thirty-five years old, which yet measures 100 feet in height, though it has lost its top more than once, with branches coming

out from the stem only 6 inches above the ground, which cover an area 60 feet across; to another Oak, with a girth of 15 feet; to some fine specimens of *Picea Lowi*, *Sequoia gigantea*, and *Abies Albertiana*, as well as to a collection of Hollies of a size and variety such as one seldom sees.

Then we enter the garden and make our way over the trim gravel walks direct to the house which contains the famous Vine. As we go Mr. Smith tells us of the great anxiety he had for its safety in spring. *Phylloxera* attacked the smaller Vines in the adjoining house, and they had to be removed with much care and labour, and all the soil carted to a distance. The work of purification occupied many weeks, but fortunately the old Vine remained unharmed, while the young plants with which the victims of the disease were replaced are thriving satisfactorily.

This year the ancient Vine bears a crop of Grapes far surpassing that of any previous season, and Mr. Smith is so well satisfied with it that he declares himself prepared to challenge the world. The Hampton Court Vine may possess a greater antiquity, and its branches may cover a wider area, but the size and flavour of its fruit and the weight of its crop are far inferior to this. The Manresa Vine at Roehampton may send its rods to a distance of 224 feet from the parent stem, and hang out its seven rows of bunches in their purple pride, but at best it is only an unwieldy giant, producing, with all its acreage, a crop inferior in weight, and fruit inferior in size and flavour, to those of the Speddoch Vine. The Vine at Kinnell, much as its praise has been spoken, must yield to its Dumfriesshire rival, and concede to the Speddoch Vine, with the best grace it may, the honour of being the finest Vine in Britain.

The story of the Speddoch Vine reads like a romance. Its parent was the historical Vine at Hampton Court. Somewhere about the beginning of the century the grandfather of the present proprietor, Mr. Clark, visiting Hampton Court while pruning was going on picked up some pieces which were lying on the floor, and asked if he might have them. His request was, of course, acceded to at once, and an eye being planted in the usual way the Speddoch Vine was the result. The house in those days was quite a small one, only 20 feet long, and it was occupied by several other Vines. But this scion of the Hampton Court Vine made headway, and one by one the others were removed, till in time it had the whole place to itself, and soon its abode had to be enlarged by the addition of 20 feet to the house. Its rapid growth continuing more space still was required, and the present house was built over the old one in 1871. It is a very substantial structure, measuring 60 feet by 20, and it might have been made much larger but for the conformation of the ground. The front parapet consists of two courses of Ashlar freestone, with freestone mullions, from which rafters 26 feet in length extend, supported in the centre by tubular pillars of malleable iron. The stem of the Vine, which, as anyone who knows the Hampton Court Vine will be aware, is of the Black Hamburg variety, is at one end of the house. Its girth at the ground just before it branches is 2 feet 4 inches. There are thirteen rods, together with one grafted rod of the Buckland Sweetwater, and these extend, not horizontally, as is often the case, but vertically. The Vine, with its clustering bunches, now in beautiful colour, is wonderful to see. The bunches are not distributed at wide intervals, as in so many Vines which make a great assumption of superiority, but are set close together, so that when viewed from one end the roof seems a solid mass of purple fruit. This season the bunches number considerably over 500. The smallest of them cannot be much under 2 lbs. in weight, while some of the largest must weigh 4 or 5 lbs. and upwards. The weight of fruit obtained last year was considerably over 1000 lbs., and those who are best qualified to judge estimate that this season there will be at least 200 lbs. more. "By their fruits ye shall know them!" Manresa and Kinnell may boast their branches spreading under yards and

yards of glass, but with it all where are they when the bunches come to be counted and the fruit to be weighed? Can either of them, with all their bulk, produce 1200 lbs. of such delicious, large, well-flavoured Grapes as this Speddoch Vine in its little house of 60 feet by 20?

This old Vine has had several marvellous escapes from utter destruction. More than once it has suffered the ordeal by fire. On one occasion in its early days it came very near being entirely consumed. One Sunday morning the gardener having made a good fire owing to the weather being cold, banked it up well and set off to go to church three miles away, leaving his wife with instructions to see that no harm happened to the vinery. But, busied with her household affairs, the good woman forgot all about her charge, and when the gardener returned he found that in his absence the flue had taken fire, and all the Vines in the house were destroyed except this, which happened by good luck to be in the cool corner. Once again, when the new house was being erected, an impatient mason in endeavouring without assistance to remove the lintel from the old door tumbled it over on the leading branch, which was, of course, irretrievably ruined. Then a superstition used to prevail in the neighbourhood in favour of burying the bodies of dead donkeys at the roots of a Vine, as the most appropriate manure it could have. So all the creatures, dogs and cats and other animals as well as donkeys, that died within a radius of a mile or two were brought religiously to nourish the roots of the old Vine. When the present gardener came his first care was to effect a thorough pruning of the branches, and when that was done to look to the roots. The border was duly trenched, and, sure enough, the bodies which had been brought to the spot were found in a putrid mass. There was not one root of the Vine near them. As soon as possible the evil stuff was removed and replaced with good loam, and no more defunct pets were allowed to find their last resting place there.

Mr. Smith has something to say about the honours he has won in past years at the horticultural shows in Edinburgh, Glasgow, Dundee, and Dumfries. Once he took a prize with a bunch of Grapes 9 lbs. in weight, believed to be the second heaviest bunch of the Black Hamburg ever exhibited. He mentions a curious instance of the uncertainty of judges which occurred in 1884, when he was awarded the second prize at the International Show at Dundee, while at Edinburgh a week later he carried off the first prize from the previously successful competitor. It is now a good many years since Mr. Smith ceased to exhibit.

Leaving the house containing the old Vine, and passing through the span-roofed house in which the phylloxera made its appearance in spring, noticing how the young Vines are flourishing, and noting the large specimen Ferns ranged on the tables, we visit next the potting house, the fruit room, and the well-lighted boiler house. Everywhere we observe the same substantial fittings, and the same convenient arrangement of accessories. The windows of the fruit room are of obscured glass 1 inch thick, so that the temperature within is little affected by the temperature without; while the fruit tables and shelves are of foreign maple—a wood free from all resinous odour. In the boiler house are two large Meiklejohn's cruciform boilers, which can be used together or separately as required. The heat is regulated by a convenient arrangement of Messenger's patent valves.

These all adjoin the house where the old Vine has its habitation. Passing now into the open air, a few steps lead us to a second span-roofed house. It was originally intended for a Melon house, but is now occupied by five Vines of Alicante and Gros Colman, which, planted at one side, are trained right over the span. They bear an enormous crop of heavy bunches, with berries of an unusual size. Another house contains Vines of Muscat of Alexandria, and I was struck with the length and weight of the tapering bunches, which seem extraordinary for Vines not more than six years old. In these two houses, which

open into one another, we had barely time to glance at the Ferns and bright-foliaged plants, such as *Gesnera zebrina*, which crowd the tables, or the Tomatoes trained against the walls, or at the Fig tree in the corner, but were compelled to hurry on to the Peach houses, where we found such a grand crop of Victoria and Lord Napier Nectarines, that we felt as much inclined to compliment Mr. Smith on his success with this fine fruit, as on his unparalleled crop of Grapes. Then we walked through the garden, remarking how well the wall fruit was thriving, protected as it is in places with a glass coping; noticing the great rockery, 120 yards in length, with its wealth of Alpine plants and Ferns almost concealing the enormous boulders of conglomerate and the blocks of shining felspar brought all the way from the mines at Wanlockhead; admiring the showy flower borders with their cleverly contrasted tints; and out into the cool shade of the giant trees, where there was something new to observe.

We took our stand on the tennis ground, and noted how well its oval shape fitted into the steep ascent which rises beyond. All around were a great variety of magnificent trees, some standing singly, some planted in groups, including specimens of *Araucaria*, *Thuja gigantea*, *Cedrus deodara*, *C. atlantica*, and *C. libani*; *Picea nobilis*, *Normanniana*, and *pinsapo*; *Abies excelsa aurea*, *Douglasi*, *canadensis*, and *Albertiana*. Then through the midst of these we took our way along a grassy path, past a large pond where only the leaping trout disturb the placid water, past the extensive kitchen garden, and on to the lovely Speddoch Glen, where we found a shady retreat from the blazing summer sun. We crossed a deep and rocky ravine on a neat footbridge supported by iron girders resting on substantial stone piers. Even now the scanty stream betrays by its brown waters its origin in the moorlands. As we followed the path we noticed the natural rockwork with Ferns—the Oak, the Beech, and the Lady Fern—growing in wild luxuriance. Then we recrossed the stream by a bridge similar to that below, and retraced our steps through woodland alleys to which the lofty *Picea nobilis* lends a marvellous dignity with its stately form and glistening bark, and before we were aware we found ourselves at the summer house on the height overlooking the tennis ground, with the gardens, the house, the grounds, and all their wealth of arboreal beauty spread out at our feet. Far away we caught once more a glimpse of Queensberry, dim in the distance as a summer cloud, and, stretching in the other direction for miles, we could follow the valley where lay the road to Dumfries. And so once more we bade farewell to Speddoch, conscious that we had seen only a part of the beauties which, like some coy maiden, it hides away in its secluded glen.—KARMI.

VIOLAS AND PANSIES.

I SHOULD like to add a few remarks on Violas to those on pages 48 and 118, and also to give some notes on new Fancy Pansies exhibited this summer.

NEW VIOLAS.

Other new Violas to be sent out which have come under my notice as worth having are Prince of Orange, deeper in the yellow than Bullion and a fine variety; Rob Roy, rich gold with a bright brownish red blotch in the top petals, both to be sent out by Messrs. Dobbie & Co.; and Duke of Clarence, rich velvety black violet, with light clouded upper petals.

Another lot of blooms of seedling Violas has been sent to me by Mr. J. D. Stuart of Belfast, who is devoting much attention to Violas, and I append a few notes of some of the best of those he sent to me. H. W. Stuart is a very richly coloured beautiful flower of good size, perfect form and substance, colour maroon purple clouded and striped with rosy lilac; a beautiful variety. Mrs. Joseph Chamberlain is another fine and distinct variety, having the good properties of H. W. Stuart, but much lighter in colour and distinctly clouded with lilac; a beautiful variety. Hibernia is a flower of first-class quality, admirable in form and substance and smooth, rich violet lower petals, and greyish lilac top petals; extra fine. Unionist is a rich deep plum purple with blue-tinted lilac blotches, somewhat resembling Master of Arts in colour, but a larger flower. Commodore is very distinct in

colour, a bright tint of dark shaded blue lilac, with a light blotch in the centre. The flowers are large and rather coarse, not possessing the refinement of the preceding varieties, but it would be grand in a mass as the colour is so bright, striking and distinct. 77/91 is a greyish tinted white with faint purple stripes, very large and thin in substance. I am doubtful if this flower would stand much hot weather. It is quite distinct and will please many. Lady Dufferin is deep in body colour, and distinctly flaked with very pale purple. It is a quite distinct and very pretty variety. Laverock is a seedling from Skylark or Blue Cloud, and is exactly the same type of flower, but pure white with a narrow even margin of sky blue on each petal, and not so broad or deep in colour as is Skylark or Blue Cloud; it is a charming variety. Colleen Bawn is the same style of flower as Laverock, but with only a Picotee edging or margin of very pale blue, a quite distinct and pretty variety. Mr. Stuart also sent blooms of his Golden Flake, an excellent pure Yellow self, but I think identical with Prince of Orange, to be sent out by Messrs. Dobbie & Co. I can see little or no difference in the flower. On the 9th inst. I received from Mr. Samuel McKee, a Belfast merchant, and like his friend Mr. Stuart, a votary of the Viola, a box of blooms of seedlings, and it is evident that Belfast is coming to the front with sterling new varieties. These were all under numbers only, so that it is of no use to your readers to refer to them here beyond saying that one is a fine variety of the Quaker Maid type, another an improved Hugh Ainslie, and another a Sunrise style of flower. Two or three others also very fine.

A long spell of dull showery weather, with an occasional thunderstorm, and about thirty hours of continuous rain on the 18th and 19th of July, brought out in a wonderful degree the lasting power of the Violas as outdoor decorative plants. Whilst other portions of the flower garden were dull the Violas everywhere were in superb condition, and folk now wonder why they have so long been insensible to their beauty and great value.

Amongst the more recently introduced kinds I may just mention as well worthy of notice the following sorts:—Countess of Elgin, a greatly improved John Burns, and a beautiful flower; Dorothy Tennant, H. M. Stanley, Golden Gem, Bridesmaid, Countess of Wharncliffe, William Niel, Master of Arts, Duchess of Fife, Spotted Gem, Lady Amory, Cottage Maid, The Mearns, Hugh Ainslie, Neptune, Princess Beatrice, Rosie Clark, Wonder, Mr. Charles Turner, Mina Baxter, Ethel Baxter, Wonder, Sir Joseph Terry, Marchioness of Tweedale, and others.

NEW FANCY PANSIES.

At the Exhibitions at Birmingham, Leicester, and York, where Pansies are specially encouraged, some very fine seedlings have been seen, to which certificates have been awarded, and the varieties will be sent out in the autumn or spring of 1893. At the second annual meeting of the Midland Counties Pansy Society there was a fine display of the newer kinds, the Scottish growers, Messrs. Smellie, Irvine, and Campbell, and Mr. Bailey from Sunderland, showing extensively. Mrs. D. Johnson, shown by Mr. Smellie, Busby, Glasgow, is a fine back row flower of great size, form, and substance, with rich violet top petals, and with a very large solid blotch of the same colour with clear white margin. William Watson (Smellie) has rich blue violet top petals, a grand clean solid blotch, with small primrose belting; a very fine flower. Mrs. B. Smellie (Smellie) is a Miss French style of flower and fine. Arthur Frater, shown by Mr. William Frater, Linlithgow, has a clean solid blotch with rich deep primrose belting of the lower petals and deep blue lilac top petals, and is of fine form. John Knox, shown by Mr. Irvine, Tighnabruach, is an Allan Ashcroft style of flower, but much brighter and a great improvement on it. It is a flower of first class properties. A certificate was also awarded to Mr. Wm. Sydenham, Tamworth, for a rich gold Fancy Tamworth Yellow, of fine form and substance and dense solid blotch.

At the Midland Counties Exhibition the following Fancies were generally shown, and fine:—David Rennie, fine everywhere; Mrs. David Allen, Kate McArthur, Maggie A. Scott, Agnes Mormon, Mrs. R. S. Niven, William Adam, Lady Duff, Maggie Douglas, Louis Westers, Bella Johnson, Betsy Kelly, James S. Irvine, Lord Tennyson, a fine flower; Jeannie Paterson, Mrs. Train, very fine; and Henry Eckford; all prize flowers. Mr. Irvine was also awarded a first-class certificate for a lovely primrose self Show Pansy, Winnie Irvine, a very refined flower.

At the Leicester Pansy Show Lord Randolph Churchill was to be seen very good in some of the stands. Neil McKay and Tom Travis were frequently met with, and always good. May Hynd, Neil Gillies, Lord Hamilton, Mrs. Hugh Weir, and David Strachan, in addition to those already named, were frequently seen at both exhibitions in fine condition. Mr. Irvine staged at Leicester some very fine newer varieties—viz., James S. Irvine, a richly coloured flower, with superb large solid blotch, and of the finest form and substance; Mr. John McConnell and Lord Hamilton, two well-

known, fine sorts; Mr. W. Dean, a fine attractive flower of excellent properties, white with large blotch, and petals flushed with blue lilac; Lizzie Irvine, very rich in colour; that fine older variety Donald Morrison; Robert Jamieson, a superb flower of the style of Donald Morrison, and very fine; and William Scott, a very fine flower with claret top petals, superb blotch, smooth, and of fine form. Tom Travis, grand in its massive blotch was fine everywhere; so, also, was George Anderson, rich gold, with bright bronzy-brown top petals, and superb dense clean cut blotch. Maggie McPhail is a charming and distinct flower of fine form and substance. Alexander Duncan is something like Lord Hamilton, but distinct and very fine. Archie Scott, in the style of J. J. Ashton, with grand lower petals and the side petals shouldering high and close, is a first-class flower. Mrs. D. Pinkerton is the finest white I have seen, with very dense, clean cut blotch. Alexander McCrossan, in the style of Allan Ashcroft, but brighter, is a grand flower in form, size, and substance. Helen Vallance is a very fine flower, with a little of the Lord Hamilton character in it. Mina Scott is much brighter than Archie Buchanan, a splendid flower in form, substance, and blotch. T. Morton is a distinct, very fine flower, deeper in colour than James S. Irvine. George Irvine is a rich crimson, velvety tinted flower, of finest form and substance; and Captain Steel is another richly coloured flower of excellent properties.

Pansies were well represented at York in all the classes, the three stands for forty-eight dissimilar Fancies, open to the trade growers, being especially fine. Mr. A. Bailey, jun., Sunderland; Mr. Campbell, Blantyre; Mr. J. Smellie, Busby, Glasgow; and Mr. Irvine showing prominently. Interest was largely centred in the class for twenty-four new Fancy Pansies, the first prize being a handsome gold medal presented by friends of the Midland Counties Pansy Society, and this was won by Mr. Andrew Irvine; second, Mr. Campbell; third, Mr. Smellie. The Show Pansies were scarcely up to the average, but some good blooms were to be seen. The amateur classes were well filled, and many fine blooms were staged, the principal prizewinners being Mr. Archer of Sunderland; Mr. Robt. Mann, Shadwell, Leeds; and Mr. Thornton, Bradford.

First-class certificates were awarded to Mr. A. Irvine, Tighnabruach, for twelve seedling Fancies, which ought to have been named, but were not; also to the same exhibitor for Show Pansy Winnie Irvine, previously alluded to; also to Mr. Campbell for two fine Fancies, Dr. Bostock and Maggie Douglass; to Mr. Smellie for William Watson and W. B. Smellie; and to Mr. Wm. Frater for Andrew Frater. Mr. Campbell had a bloom or two of a seedling Fancy Mrs. Mackie, a very fine variety, but three blooms were necessary to receive a certificate.—W. DEAN.

OPEN-AIR PEACHES.

I LOOK upon our outdoor Peach crop as the most certain of hardy fruits, for the reason that we are enabled to give the blossoms protection at the most critical period—the time when they are fully expanded. For this reason I think that the outdoor Peach crop is more at command in the majority of neighbourhoods than any other. There need be no difficulty in annually obtaining a full supply of good bearing wood thoroughly set with flower buds if a few simple rules are observed—at least I have none, and our soil is heavy and cold enough. We have Peaches growing in various aspects—south, east, and west; and all succeed alike. I have many times been surprised at the heavy crops we get from one tree on an east wall. It is very much exposed to east winds, which give us an annual full crop of “blister;” but the trees grow out of it in an astonishing manner. This they would not do were the roots not in a satisfactory condition, and the wood of the previous year thoroughly matured. The border in which the trees are growing is 11 feet wide. The part specially set apart for them, and which has not been dug over or moved in any way for the last ten years, is 4 feet wide. The surface is, in consequence of the constant treading to which it is subject in attending to the trees, something like macadam, so hard is it. The space in front is occupied with herbaceous plants. No doubt some roots from the Peach trees are running into this, and as we trench this border every third year for the benefit of the herbaceous plants the trees receive a root-pruning, which is to their advantage, checking exuberant growth.

The main point in disbudding the young growth is not to take off too many shoots at a time and to leave rather more than are really needed eventually until the trees have recovered from the “blister” with which they are annually affected. A fault in outdoor Peach culture is the laying in finally of too many shoots; 4 inches between each is not too much space to allow, but more frequently only 2 inches is what is allowed. Directly the trees are

cleared of their fruit they ought to be pruned, cutting out any branches which would be removed at the spring pruning; those left are then afforded more space for becoming thoroughly matured. Another error committed is that of not taking prompt measures to rid the trees of insects the moment the latter are seen. If green or black fly attack the points of the shoots and are allowed to remain until the leaves are coiled up and the point of growth crippled before the remedy is applied how can the trees be expected to perfect a crop of fruit or lay the foundation for another year?

Water is too often withheld from the trees, not only when they are in full growth but after the fruit is gathered, not only at the root but over the branches also. When in full growth Peach trees require a large supply of water to give the best results, and after they have perfected their fruit several thorough soakings at the roots will be an immense advantage to enable the trees to plump up their bloom buds for the following year should the weather be hot and dry during September. It is surprising what an amount of moisture a brick wall will absorb from the soil, and this is all at the expense of the trees. During hot weather the trees should be thoroughly drenched with clean water in the evening, which not only checks the spread of insect pests and keeps the foliage free from dust but cools the bricks for the night, which must be an advantage to the branches and leaves of the trees. Mulching the surface to prevent the evaporation of moisture is important, but this may be carried too far to the detriment of the trees by excluding the sun from warming the soil, which is an important factor in Peach culture. Directly the trees are fastened to the wall in the spring some lay on a thick coating of manure, and there it remains until it vanishes from decay. This is a wrong method to pursue for the reasons stated above. If there is a prospect of a long spell of bright dry weather then a mulching of light stable manure to maintain the surface in a moist state will be an advantage, but mulchings should only be employed for this purpose.

In strong soils the application of stimulants to the roots must be attended with care. Giving too much is a mistake, as strong sappy wood is the result, and that is not needed; rather the reverse, as such growth is liable to gumming when a severe winter follows a wet summer. I never give stimulants to the roots until the fruit has passed the stoning period, and then but once or twice. More reliance is placed on abundance of clear water with a mulching of horse manure after the stoning stage is passed. In the case of light sandy soil the trees need more attention and assistance when swelling a crop of fruit. A thorough soaking with liquid manure once a fortnight during dry weather would not be too much.—E. MOLYNEUX.

HARDY FLOWER NOTES.

Some Troublesome Plants.

NOT the least of the many pleasures to be derived from a true love of flowers is that which we enjoy when, as Wordsworth has it, we are "in silent or in pensive mood," or are oppressed with physical weariness, and turn our thoughts to the flowers we know and admire. And this pleasure is increased tenfold when, at these times, we can bring to mind the associations and legends attached to them.

LILIUM CANDIDUM.

To none of the flowers of the garden do these words apply in a greater degree than to *Lilium candidum*, the Madonna Lily. The other night, when somewhat weary, my thoughts turned to a fine mass of this Lily which I saw in a neighbouring garden a day or two ago, the Lily of the Virgin, of which the old Calendar said—

"From Visitation to St. Swithen's showers
The Lillie white reigns queen of the flourcs,"

as the emblem of purity has been inseparably associated with the Madonna, not only from the legends long current, but from the custom of the old painters of limning upon their canvases this Lily alongside of the figure of the Virgin. It is said, with the Rose, to have occupied her tomb when opened after her resurrection by St. Thomas; it is said to have been a crown of Lilies which was worn by Judith when she went into the tent of Holofernes; it is the flower of Juno produced from some drops of the milk which escaped while she was suckling the infant Hercules; it has been celebrated in the orders of chivalry; has been written of in poetry and prose, and has so entered into the arts that its absence would leave a sad void. If its value in the past has been so great in the religion, the art, and the literature of olden times, its value from a garden point of view remains unequalled and unimpaired. Whether

in the gardens of the palace or of the cottage, the Madonna Lily is admired by all, and he who cannot grow it in his garden loses a pleasure he can hardly afford to lose.

Easily as this Lily is cultivated in some gardens, in others it is by no means a success. It is one of those which, I must confess, always disappoint me in my garden; but though this is so I have every hope that some day or other I shall hit upon some successful method of cultivating it. I am the less inclined to despair of success when I recollect how well *L. testaceum*, which is understood to be a hybrid between *L. candidum* and *L. chalcedonicum*, does here, and when I see it in a neighbouring garden, with, so far as can be seen, a similar soil. Although I have frequently spoken of this Lily I return to it now in order that I may advise those who wish to try it to procure their bulbs as soon as possible. Its growth is made very early, and it should be planted almost immediately after flowering. As to the soil in which to plant, it ill becomes one who has been unsuccessful to speak of it. I should, however, advise in light soils a fair quantity of cow manure to be added to the soil, but not in contact with the bulbs. In heavier soils, provided they are well drained, *L. candidum* seems to do well.

As to the disease which brings dire disappointment to the hopes of the grower, who can dogmatise? Some of the "cures" which have been applied to the useful Potato have been tried with the Lily, and with more or less, but generally less, success. In some cases the flowers were saved, but the foliage was hopelessly incurable. In this case I should say the gain was a doubtful one. It can hardly be expected that a bulb which has flowered while its foliage has never been fully capable of fulfilling one of the essential purposes of its existence should remain in full vigour, and I should think as a matter of eventual gain it would be well to take off the flowers before opening. Then, again, if this Lily is grown as an ornamental garden plant, what is it worth with ruined foliage? So far as I have seen the conditions which seem favourable to the spread of the Potato disease seem to affect the Lily, and this season it appears to be more than usually healthy in this district. If I am not mistaken the Rev. C. Wolley Dod has had some trouble with this disease, and I trust he may find it convenient to give us the result of some of his observations.

IRIS STYLOSA.

Having gone so far into one's troubles and disappointments with plants, I may as well continue in the same strain, and notice a few others which are not very successful either here or elsewhere. Among these is *Iris stylosa*, a most beautiful Iris, which in some catalogues is alluringly described as flowering at a period of the year when we have little else outside. I must say, however, that although my garden is in a favoured spot as regards climate, and as regards soil is highly suitable for winter-flowering hardy plants, I am unable to bloom this without giving glass protection from October until after the flowering period in January or February. I believe this experience applies to the vast majority of gardens. If I am not mistaken it flowers unsheltered in the garden of the Rev. H. Ewbank in the Isle of Wight, but in most gardens it requires to be specially cared for by covering with a handlight or other glass protection during the period already indicated.

PLUMBAGO LARPENTÆ.

Another troublesome and disappointing plant to many is *Plumbago Larpentæ*, so favourably noticed on page 97 by "D, Deal." I fear with most cultivators it must be written down as flowering too late to be satisfactory unless covered with glass also. I have tried it in several positions, but cannot get it to flower in the open in time to prevent it being cut down by early frosts. But then I am a long way further north than your able contributor, and although we have a mild winter I daresay our frosts come a little earlier. But I mean to make one more attempt with *P. Larpentæ*, and should another year leave us among our flowers I hope to report success at last.

ZAUSCHNERIA CALIFORNICA.

This is another plant giving much the same results as the *Plumbago*, and it, too, is about to receive a last chance, for, as a rule, I care but little for those flowers which require to be coaxed into blooming by such special means. It grows and flowers very well on a wall in some gardens, and I mean to have a trial of it in this position and see if I can flower it regularly thus. Another flower which gives me some annoyance from its shyness is

CROCUS SATIVUS.

The old Saffron Crocus is a fine thing of its kind when in flower, but which has long been noted as being very unsatisfactory

in some gardens, and highly satisfactory in others. We have many such instances among flowers, and such things will, I suppose, remain a mystery to us. Were it not so a great deal of the pleasure of gardening would be gone, and it would be less of an art than it now is; but all the same we all seek a royal road to growing certain plants, and find this road unattainable. Well, I am sorry to say, of all the Crocuses in my garden—and they are numerous—*C. sativus* is the most troublesome, only giving me a flower occasionally, and then the treat is a great one, so fine are the curious blooms, with their stigmas hanging to one side. Canon Ellacombe in his "Plant Lore of Shakespeare," p. 272, gives his experience of it thus:—"In some places it entirely refuses to flower, as it does in my own garden, where I have cultivated it for many years, but never saw a flower; while in a neighbour's garden, under apparently the same conditions of soil and climate, it flowers every autumn." A hazel loam, resting preferably on chalk, was, in olden times when it was grown for commercial purposes, considered the best for *C. sativus*.

AQUILEGIA GLANDULOSA.

One more note on *Aquilegia glandulosa*, and I must quit the subject, which is by no means an enticing one, but is useful withal. This fine Columbine is one which I have "loved and lost," but have lost, as I believe, from lack of attention. It is a plant which likes a light soil, with some cool manure within reach of the roots, and a good supply of water before coming into and while in flower; indeed, I have found it require a fair supply of water even after blooming in this light soil. It was due to inattention in this that I lost my last plants, for it is no easy matter to keep all the moisture-loving plants going in a dry season here, where there is no water supply save from the garden well. Even with the best of care *A. glandulosa* is by no means a long-lived plant in most gardens, and where a mixed collection of *Aquilegias* is grown it is not always that the seedlings come true. With all these plants if one cannot hold forth the certainty of success, there is this to be said, that all are worthy of trial, and if failure occur no one need be ashamed of it, while if success should result the flowers themselves will be sufficient reward for the labour and anxiety they may require.—S. ARNOTT.



LÆLIA PUMILA.

THIS exceedingly pretty and very dwarf Orchid became known to horticulturists in 1838, being described in that year by Sir W. Hooker in the "Botanical Magazine," t. 3656, as *Cattleya pumila*. It is a native of Brazil, growing on trees at considerable elevations. The flowers are about 4 inches across, solitary, and droop slightly; the sepals are slightly reflexed; the petals are broader than the sepals; all being of a fine rosy purple. The lip is large for the size of the flower, three-lobed, the side lobes forming a tube which encloses the column; the middle lobe is reflexed and crisped, and in colour a deep purple. The flowers are borne on slender pseudobulbs about 3 inches high; the leaves are solitary, stout, 4 inches long by 1 inch broad. *L. pumila* var. *Dayana* was discovered in 1876, and was named after Mr. John Day, in whose collection it first flowered. The variety *præstans* is rather difficult to cultivate, and is not often seen in flower; it is earlier, and has more yellow colouring than *L. pumila*. Though requiring little compost to grow in, these *Lælias* require great attention as to watering; they should be placed in small baskets and suspended close to the glass in the *Cattleya* house. A higher temperature and plenty of moisture should be given during the growing season. August and September is their time for flowering.—C. K.

LÆLIO-CATTLEYA INGRAMI.

WE are constantly reminded of the close connection between the two genera *Lælia* and *Cattleya* by the crosses between them

that are exhibited. Of these there is now getting to be a considerable number, and several are undoubtedly great acquisitions. The latest example may justly be classed with the best of them, being a hybrid of great distinctness and beauty. It has been raised by Mr. T. W. Bond, grower to C. L. N. Ingram, Esq., Elstead House,

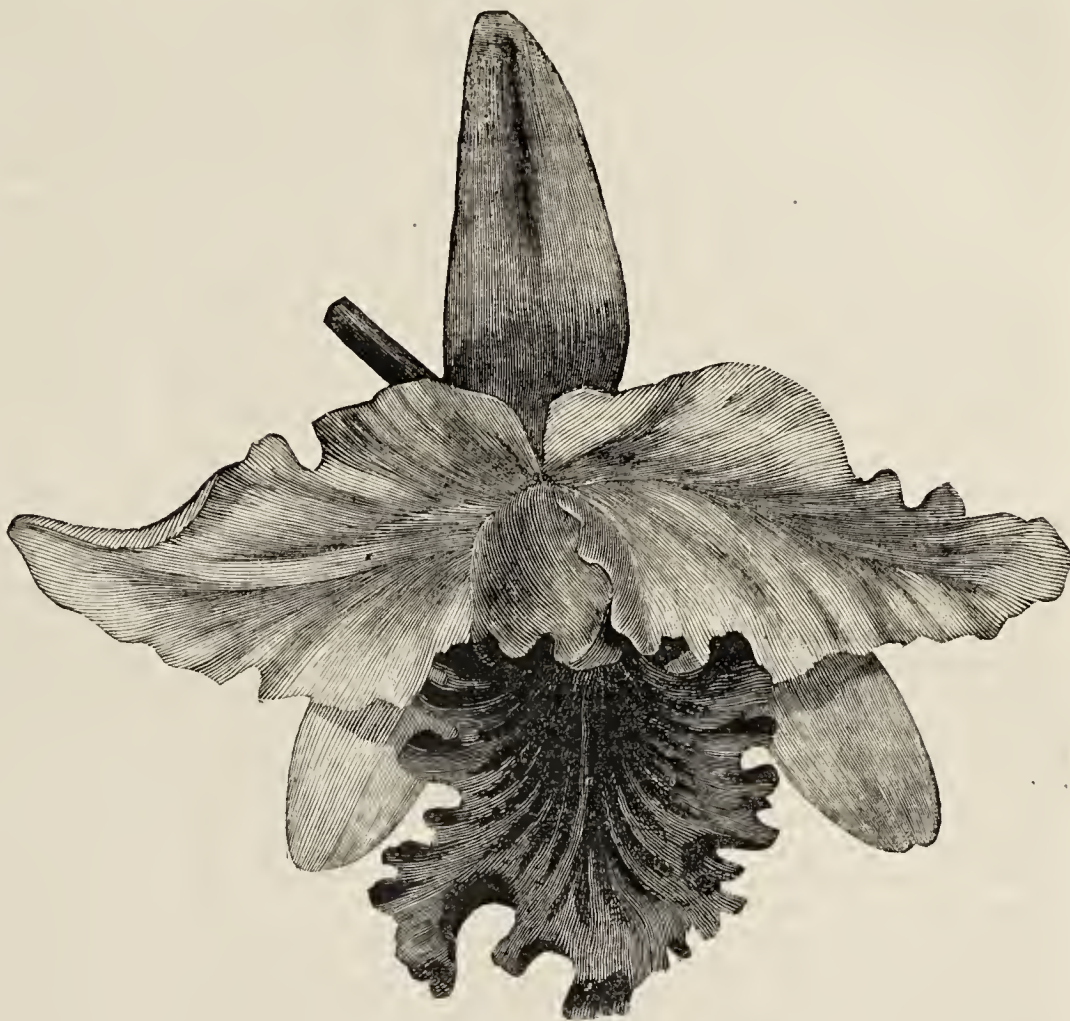


FIG. 20.—LÆLIO-CATTLEYA INGRAMI.

Godalming, and is the result of a cross between *Lælia pumila* *Dayana* and *Cattleya aurea*. The influence of the former was evident in the dwarf habit of the plant, which was only 6 to 8 inches high, but it must be remembered that it was a small one. The flower is very remarkable for the colouring of the lip, which reminds the observer of *Cattleya aurea* in form. It is a very deep and velvety purplish crimson, not in any sense a red, but much more inclining to purple, and the colour extends right into the throat. The sepals and petals are rosy mauve, the latter being much broader than the former and wavy in outline. The plant only bore one flower, and it will be very interesting to note its character when stronger, but its merits were sufficient to secure the award of a first-class certificate. Fig. 20 represents it.

MILTONOPSIS BLEUI SPLENDENS.

THIS new Orchid is a garden hybrid raised in France by Monsieur Bleu, and it is the most distinct and beautiful among many hybrids of great promise which he has produced. It has attracted great interest, apart from its beauty, from the fact that it is the first hybrid *Miltonia* ever produced. It is the result of crossing *Miltonia vexillaria* with *M. Roezli*, plants which a few years ago were found rather difficult to cultivate, and were generally known as *Odontoglossums* of the *Miltonia*-flowered type, in which class were included *Odontoglossum Phalænopsis*, *O. Roezli*, *O. vexillarium*, and *O. Warscewiczii*, all of which are now recognised as *Miltonias*.

It was only in the spring of 1872, after failures by Hollis and Roezl, that Chesterton succeeded in delivering live plants of *Miltonia vexillaria* to Messrs. Veitch & Sons, one of which, and the first one to flower in cultivation, flowered in February, 1873, in Messrs. Veitch's establishment. Roezl succeeded in 1873 in delivering one solitary plant of *Miltonia Roezli* to Mr. Bull of Chelsea, for a large price, and this flowered in December the same year, and created as much sensation as *M. vexillaria* had the previous spring. Thousands have, however, been imported since that time of both varieties, and have become so popular and well known that no description of them is necessary.

The plant of *Miltonopsis* raised by Monsieur Bleu was secured by Mr. Sander of St. Albans, who called it "a marvel," and from him Mr. Ames acquired a part of the plant.

It is intermediate in character and habit between the parents, and I think will prove of good constitution. The plant now carries two flower-spikes of three flowers each well above the foliage. The flowers measure in length $4\frac{1}{2}$ inches, and the lip $3\frac{1}{4}$ inches across. The sepals and petals are full, as in *M. vexillaria*; the base of the petals is suffused with delicate rosy purple on white ground; the lip is large and flat, bilobed in front, and of a delicate white colour, faintly veined with pink; the base of the lip light chocolate, with twelve to fifteen radiating lines about an inch in length, of a deeper colour, while the three lines on the crest are of a reddish brown. We have grown this plant at the warm end of our *Odontoglossum* house, near the glass, and close to where we grow plants of *Miltonia vexillaria*, and it receives the same treatment as regards potting material, temperature, &c., which is given to *Miltonia vexillaria*. The plants should never be allowed to get dry, and yet care should be taken not to give them too much water while they are resting. The temperature should be kept at about 60° night and day, or 55° in extreme cold weather, with free ventilation. They should be moist continually, and the plants kept well up to the light, but not in direct sunshine.—W. ROBINSON, *North Easton, Mass.* (in "Garden and Forest").

CARNATION NOTES.

THE CARNATION MANUAL.

THE publication of the *Carnation Manual* is an excellent idea admirably carried out. It is not a small pamphlet of a few pages in a paper cover, but a substantial volume well printed and bound, full of useful and interesting information. A reference to the chapters will give an idea of its character. The Rev. F. D. Horner opens with a preface, pleasantly written like all his work, Mr. Douglas follows with "Carnation Seed and Seedlings," Mr. R. Dean discourses on "Propagation," Mr. Martin Smith on "Border Carnations," Mr. Robinson on "Carnations in the Flower Garden," Mr. Herrington on "The Culture of Garden Carnations," Mr. Martin Smith gives a "Calendar of Operations in Connection with Border Carnations," Mr. Martin Rowan writes about "The Carnation as a Town Flower," Mr. J. J. Keen on "Carnation Culture for Exhibition in a Small Garden," Mr. R. Sydenham on "The Carnation in the Midlands," Mr. B. Simonite on "Dressing and Staging the Carnation and Picotee for Exhibition," Mr. Keen gives a calendar for exhibitors, Mr. M. Campbell and Mr. R. P. Brotherston treat on "The Carnation in Scotland," Mr. F. W. Burbidge on "The Carnation in Ireland," Mr. Douglas on "The Yellow Carnation and Picotee," Mr. Harry Turner on "Tree or Winter-flowering Carnations," Mr. J. Jennings on "The Culture of Winter-flowering Carnations," Mr. Douglas gives a calendar of operations with Trees, the Rev. H. H. D'Ombraïn treats the flower retrospectively, Mr. Martin Rowan deals with "Diseases and Pests," and a selection of varieties is given founded on lists supplied by several leading growers.

Here are dishes of Carnation fare that should satisfy any lover of the flower. There can be no attempt to criticise all, but we dip lightly into Mr. Horner's chapter, and quote his words on the florists of the past and present:—

"In the retrospect of a long florist life, such as mine has well-nigh grown to be, I can see, amid grey memorials of many a veteran florist, the tiny footstones, as it were, of those who, though perhaps still living men, have yet as florists 'died in their infancy.' Not as lying here, shall we count those whose love for favourite flowers has outlived their powers to tend them; or who, in the chances and changes of life, have no longer either time or garden space available. We look on men like these as with us yet; and times come round with flowers, and old friends meet over old favourites, and we feel we are not parted."

We also extract a portion of Mr. Martin Rowan's warm praise of the Carnation as a town flower:—

"That the Carnation is second in beauty and interest only to the Rose is admitted on all hands, and a 'close second' to the Queen of Flowers its votaries may not unjustly claim for it. If Nature has denied to the Carnation all the sumptuous beauty of the Rose, she has bestowed on her to very lavishness the not less precious gift of variety; for in the diverse qualities characteristic of the many classes of the flower—in the brilliance and force of the scarlet and crimson bizzars, the tenderness and grace of the rose and purple flakes, the delicacy and refinement of the edged Picotees, the rich colouring of the selfs, the picturesque and almost infinite contrasts of the fancy and yellow-ground flowers—we have a range of varied beauty hardly to be found in any other flower; while with the Cloves we have, in addition to their rich hues, a fragrance of their own not inferior to that of the Rose itself.

"With the townsman, indeed, the Carnation must hold not the second, but the very first place in his regard, for while the Rose—like many another old favourite—refuses to dwell within the smoke circle,

the Carnation will put on its best for us even in the smallest of town gardens. The great manufacturing towns of the Midlands and of Lancashire and Yorkshire have all their knots of enthusiastic and successful cultivators of the flower. At Sheffield, in one of the worst of climates, Mr. Simonite has raised some of the finest varieties of Carnations and Picotees that we possess; and all Mr. Dodwell's finest seedlings, up to the time of his removal to Oxford a few years ago, were raised within ten minutes' ride of Victoria Station. My own flowers are grown in the same locality, and, indeed, the bulk of the exhibitors at the great metropolitan and provincial shows are amateurs with town gardens, cultivating their plants under all the citizen's wonted disabilities of bad climate, cramped space, and scant leisure snatched from busy avocations of every sort."

We are pleased to learn that the Southern Section of the National Carnation and Picotee Society has been strengthened by a substantial increase in members; but it is not by these alone or educated florists alone that this excellent work will be welcomed; it will find as its possessors most persons who grow and admire Carnations as garden flowers, for all will find it useful, and it promises to remain for some time the standard work on the subject to which it is devoted.

DUCHESS OF PORTLAND.

I AM sending you flowers of this promising new variety of Fancy Picotee raised and shortly to be distributed by Mr. Joseph Lamb of Burton Joyce, Notts. It was shown by him at Leicester on August 2nd and received a certificate of merit. On the same day it received a similar award at Oxford, and at Birmingham on the 6th inst. a special certificate, and a similar award at the Notts Horticultural and Botanical Show on July 27th. On the card placed with the blooms shown at Leicester the raiser states, "It is a large flower of vigorous hardy constitution, good calyx, strong grass, and clove scented. I have been cutting flowers since the middle of February, in all ways it is doing well and proving itself of great merit with common treatment." In a letter of his now before me he says, "At Leicester the judges call it a Carnation, also at Nottingham; at Birmingham a Fancy Picotee, also at Oxford. One old gardener calls it a Clove and some a Picotee. Who shall decide when doctors disagree?"—W. K. W.

[It is not a true Picotee. The colour is on the edge, Picotee-like, but it consists of short, thickly disposed rose flakes, not a wire, and inasmuch as some of them run into the petals it might be classed as a Carnation. It is a flower of medium size and excellent form with good petals.]

CARNATIONS AT SLOUGH.

It is natural that the footsteps of Carnation lovers should turn to Slough whenever an opportunity offers itself, for Mr. Turner's great nursery there is a famous home for the noble flower. Imagine 4000 plants grown in pots, all the best, and many new varieties being included amongst them, and some conception may be formed of the extent, beauty, and interest of the display, but it must be seen to be fully appreciated. During the latter part of July and the early part of August the collection is magnificent. We paid a somewhat late visit, but were not too late to find a rich and brilliant display.

The collection of florists' varieties is large and complete, good examples being observable of such standard varieties as Admiral Curzon, Dr. Hogg, Robert Houlgrave, Squire Potts, Harrison Weir, J. D. Hextall, Rifleman, Sarah Payne, William Skirving, Mayor of Nottingham, Lovely Ann, and Thalia amongst Carnations; and of Dr. Epps, J. B. Bryant, Thomas William, Clara Penson, Zerlina, Edith D'Ombraïn, and Favourite amongst Picotees; but the Selfs, Fancies, and Yellow Grounds are a still richer display. These are growing rapidly in general popularity, and it is satisfactory to observe the sterling additions that are annually being made to their number. Of the choice varieties at Slough Countess of Jersey, a yellow ground, with light rose edge, is an admirable flower. Mrs. Arthur Barrett, which was certificated at the last meeting of the Royal Horticultural Society, is an example of a type of flower that is rapidly springing up with closely disposed flakes along the edge in place of a wire of colour. As these are confined to the edge it can hardly be classed as other than a Picotee. It is a yellow ground, with scarlet edge, and extremely beautiful. Nellie Bath is another example, and is a yellow ground, with a very heavy crimson edge. It is a beautiful flower, and a great acquisition. Salamander and King of Scarlets are a pair of splendid selfs. The former is brilliant rose, the latter bright scarlet, and both are large, substantial, finely formed flowers. Duchess of Sutherland is a white ground, with a rosy pink flaked edge, breaking somewhat into the petals, so that it ought perhaps to be classed as a Fancy Carnation. It is a charming flower. Optimus is a new yellow ground Picotee, with light scarlet edge. Remembrance, which was certificated on the 9th inst., is a lovely yellow ground, with light rose edge, and has a broad, smooth petal.

Annie Douglas, another yellow ground, with a bright rose edge, is a grand bloom.

A fresh departure is marked in the variety Old Coin, which was certificated on the 9th inst. It is a flaked flower on a yellow ground, the distinctive colours being crimson and rose. It is very distinct, and many will consider it beautiful, while it lasts wonderfully well. Romulus is a yellow ground with a deep rose suffusion. Victory is a yellow ground Fancy Carnation flaked with red, handsome and free. Ruby is a superb ruby self, with a fine petal and shapely bloom. Rose Wynne is very fine and distinct in colour, being a rich velvety purplish crimson, and has a broad smooth petal. Rose Unique is lustrous, rosy pink with excellent petal. Lady Mary Currie is a fine rose flake which runs into a magnificent rose self. It is difficult to say which is the more beautiful. Mr. Clements is a fine primrose self, distinctly paler than Germania and with many of the good points of that grand flower. Iver White is a remarkably pure self and very free flowering. It should prove to be an excellent border variety. We noted these as a few good things picked out from many others in passing through the houses, but after all they are only a fragment of the splendid Slough collection, which grows in numbers and beauty every season.

BEGONIAS AT BEXLEY.

IN a tranquil retired spot close to Bexley Heath, hemmed in by cool shady lanes, and apparently far from the City smoke, is Crook Lodge, in the nursery and fields attached to which a Begonia home has been established by Mr. T. S. Ware. It is a delightful house, creeper-covered, as all houses should be; a cool, retired dwelling that the passer-by would find a word of admiration for, and then proceed on his way. But there is a keynote struck of the treasures within, for the neat front garden is all ablaze with noble Begonias, and involuntarily he stops to make a fuller inspection. There are Begonias everywhere; the house is half clothed with them, the garden is full of them. They shine and shimmer in the summer sun, a glory of scarlet, orange, rose, yellow, and white; not common material poorly grown, but having the hall-mark of high quality about them, and in magnificent condition. Those unaware that a cutting of the great Tottenham tree had been struck here and become firmly rooted would wonder what the meaning of it was, and conclude, perhaps, that he had dropped by chance on the retreat of some amateur with Begonias on the brain, who gratified a not ignoble taste with a lavish hand.

For all its countrified air Crook Lodge is not so far from the metropolis. It is reached, inspected, and returned from in the course of an afternoon without difficulty. Those who do not object to half an hour's walk should take the train from Charing Cross, Cannon Street, or London Bridge to Bexley, and if the day be fine they will find the walk through the Kentish corn fields and fruit gardens not the least pleasant of the day's experiences; but if it is wished to avoid this, a train to Woolwich Arsenal and a 'bus from the Station door will between them carry the visitor through with a walk of 20 yards at the outside. It is a matter of taste as to which be chosen; both are pleasant and in bright weather enjoyable, while when the end is reached and the visitor is safe in the hands of that illustrious dignitary Mr. Pope there is no fear that he will have occasion to regret his journey.

I need hardly dwell on the reasons that induced Mr. Ware to establish a Begonia nursery at Bexley Heath. Doubtless he thought he perceived an opening for a profitable business in the great tuber, and with characteristic thoroughness went to work to establish one. A capable man was secured to conduct the enterprise, and expense was not spared in putting it on a sound footing. Although but a short time has elapsed since a start was made successful progress has to be recorded, and the sagacity of the Tottenham directorate receives one more proof. The quality of the varieties and the excellence of the culture bestowed on them are manifest directly the inspection is begun. A magnificent house of singles is the first one to be entered, and with the serried ranks of superbly bloomed plants it is a splendid sight. The habit of the plants is of the highest order. They are a sturdy, self-supporting race, with huge flowers borne well above the leaves on substantial stems. In glancing from plant to plant, noting their fine qualities and robust healthy appearance, it is impossible to resist a hearty "well done," for assuredly there is material for any raiser and grower to be proud of.

One of the first to arrest attention is Pride of Bexley, blush, large and very free, with stout flower stems raising the blooms above an ample canopy of foliage. Bexley White, pure white with a faint rose edge, is large and fine. Goliath is a grand orange with very large flowers and handsome foliage. Moravia is conspicuous for its rich crimson flowers. Leonora is a lovely carmine, very rich and free, certainly one of the most beautiful, though not the largest. Velleda is a fine yellow, bright in colour, and very free. Purity is an excellent white, a profuse bloomer, and with long stems. Venus, carmine with white centre, has the good qualities of pleasing appearance and abundant floriferousness. Superba is a high-class scarlet, very brilliant in tone, and Dean Swift is another equally vivid in hue, with well-rounded flowers, like a good Zonal Pelargonium. May our leading raisers give us many more like it, and so replace by degrees with

superior material the old pointed-petalled, quartered flowers. A note of praise must be sounded for Marginata, pure white with deep rose edge; and also for Devon, a very fine yellow with salmon centre, the flowers borne on enormous stems. Crimson Bedder is small but full of bloom. The habit of the plant quite reminds one of a Persian Cyclamen, for the flowers are borne erect above a cluster of evenly disposed leaves. Here again we have a model for exhibitors to work by, particularly with a view to bedding material. Nerissa is a rosy pink, charming in colour, large and fine. Blushing Bride is a soft pink, but drooping with quite excessive modesty. In Perfection, orange, we have another beautifully rounded bloom, and Sovereign possesses the same quality of good shape allied with a rich yellow hue. Shelley, rosy crimson with white centre, has long pendent stems, and was evidently born to adorn a basket. Bicolor, white, tinged with yellow in the centre, claims the triple attraction of a rosy margin. Bexley White is a magnificent variety, combining purity of tone with perfect roundness, large size, vigorous stems, and freedom of blooming. We cannot have too many like it. Challenger, rich purplish crimson; Alba Fimbriata, white, noteworthy from the petals being deeply dentated; Angola, lovely pink; Zanda, salmon; Lord Byron, scarlet with white centre, and Sunset are other beautiful singles. The latter is fiery orange with a glow about it that at once suggests its name.

There are many more fine singles, but the collection of doubles is also both large and fine, and the choicest of the varieties must have their turn. Duchess of Teck is a grand yellow, having good flowers and a fine habit. Miss Jeannie Fell is a delightful rosy red, Camellia-like in form, and as graceful and shapely as any of them all. Princess May, white and with crimped petals, is a beautiful companion to it. Baronne de St. Didier, also with crimped petals, is of a clear sulphur hue. Victory is a fine Hollyhock-like scarlet. Triumph is a splendid crimson, still hard to beat. Mrs. F. Fell, salmon, is a fine handsome flower. Alba Magna is a grand white of fine habit. Picotee, blush with yellow centre, is noteworthy for its clear rose edge. Claribel, salmon with white centre; Marquise de Trevis, blush with a rosy suffusion; Henshaw Russell, scarlet, a very free bloomer and of good habit; Messina, salmon, full of bloom; Comtesse O'Gorman, clear canary yellow; and Una, rosy pink, are all excellent. Beauty of Belgrave, a silvery pink, Camellia-like bloom, of good habit and very free, is beautiful and striking. It would be interesting to know whether Mr. Gumbleton thinks that it merits its name, for his standard of excellence is high. Pavona, pink, has fine form and pleasing colour to recommend it. Solferino, sulphur with rose tip, is distinct. Serica is a charming button-hole flower, but I hardly care to venture on a description of its colouring. Duke of Teck, brilliant scarlet-crimson, a fine Hollyhock-like flower; Alice Crousse, soft pink; and Procida, blush, are a trio with which my notes may worthily conclude.

It is noteworthy that large pots are not believed in. The largest size used is 24's, and many of the best plants are in 48's. The visitor should not leave without inspecting the field where 200,000 Begonias are bedded out. It is wonderful to see, with the broad masses of bloom in all the unexampled richness of colour which these noble flowers command. They are splendidly grown, full of bloom, and in great variety. To describe them would be impossible, and it needs the full strength of a burning reflection that less than half an hour remains to reach a station nearly two miles away to turn from the flowers and say farewell.—W. P. W.

REVIEW OF BOOK.

LAND: ITS ATTRACTIONS AND RICHES. *The Land Roll Office, 3, Lincoln's Inn Fields.*

AMONGST a number of books that have long awaited notice, which the pressure incident to the show season has hitherto precluded, is one of considerable size and importance under the above comprehensive and attractive title. It embodies the work of fifty-seven authors, and is edited by Mr. C. F. Dowsett, F.S.I. Probably it has proved a somewhat costly undertaking; and it seems to contain matter of interest on almost all subjects connected with the land. There is a good deal in the book of a controversial character, but a great deal more of general interest to landowners, and not a little that may be fairly regarded as of substantial value to landworkers.

Instead of enumerating the chapters in the book we prefer to take brief extracts from some of them as indicating its character, and which may be suggestive or interesting to our readers. Thus, Dr. W. B. Richardson, in treating on "Health in Relation to Land," says:—

"Agriculture provides aliment for health. But it does more; it provides health for the body; it is, indeed, the great factor of health. As agriculture declines perfect and typical health declines, and a people that had no land in cultivation would soon be as poor as the land itself. Our great cities and towns are the markets of the world in respect to material things and produce; they are the markets also of health—no less, no more. We have to send our produce into the markets, and we have to send our health there from the country—from the land. Health is a crop good or bad, according to its cultivation. It may be bad although it be bred in the country and on the land; but it thrives best when the land thrives best, as if the two were one and the same. In the eyes of the sanitarian land is the test of health. Good land, rightly cultivated, is the cradle of health for all crops, animal or vegetable."

Passing many pages we come to a few lines in a chapter on the "Pleasures of Country Life," over which gardeners may ponder, some perhaps with advantage, and not less so the owners of gardens:—

"'The garden for the gardener' is a theory that many a younger member, at least, of the country dwelling families has resented, and it is one indeed that brings an unbearable tyranny. But how comes it to exist? Because the gardener, too often, is the only person who knows what should be known about a garden—its fruits and vegetables and seeds, its flowers and frames (hot and cold), its forcing houses with their delicate crops of Melons, Pines, Peaches, and so forth. There is, indeed, some pity for the gardener whose efforts are only appreciated in the results he produces, in the fine flowers and the well-flavoured fruits he can bring to table, and yet whose efforts are sometimes frustrated by 'young Miss,' whose nimble fingers act the part of procurer to her longing eyes. But if young and old alike had some intelligent interest in the raising of flowers or fruit from seed, the pruning of fruit trees, the management of plants, and all the thousand other matters that make a garden interesting, there would be less tension between gardeners and their employers, and there would be a source of pleasure perennially open to dwellers in the country."

Dr. Alger points out in his chapter a somewhat anomalous position in which civilisation has led us. He says:—

"On the score of wealth, when broad acres were first given to man had he any accessories whatever? Had he not to gain his bread by the sweat of his brow, to work early and late, to hunt and fish for his food before he could eat it? Thence, onward, through cycles of years has he gone on working and toiling, anon being assisted by the springs of civilisation, until now in this the decade of the nineteenth century we find him being fed by others, his own bodily powers having been carried by the forces of his long-life history to other kinds of motion, all, however, making up that mysterious phase that we call life. This, we say, is the result of our civilisation, our intercourse with other countries, our interchange of ideas. Well, be it so! But does it follow that we are bound to let others feed us with the produce of their lands, while our own broad acres are lying wasted and wasting?"

Mr. Gilbert Murray has a few strong words to say against deep cultivation, but by this he means soil inversion, or covering the surface of land with hungry subsoil, and he treats scientifically on soil improvement as follows:—

"The chief object of cultivation is to bring the atmospheric air into direct contact with the chemical constituents contained in the soil, the most valuable of which are nitrogen, phosphoric acid, potash, soda, lime, and magnesia. Before the nitrogen of the soil can be utilised by plants it must first be oxidised. The object of cultivation is to bring the atmospheric air into contact with the nitrogen in the soil, which takes up the nitrogen and forms nitric acid; this chemical change is chiefly performed in the soil through the agency of living organisms which are present in the soil in myriads. Recent discoveries in plant nutrition have opened up a new and interesting field of investigation. There can be no nitrification without the aid of living germs; these are admittedly of a low order of life, the oxygen of the air is of itself sufficient to sustain their operations; darkness is also requisite for their activity. This will explain to the cultivator the advantage wherever practicable of stirring, rather than inverting the soil; the action of these microbes and their operations cease at a temperature slightly above freezing, and cannot endure a temperature of more than 100°. They are most active in their operations a few inches below the surface, and practically become inoperative at a depth of 10 inches, hence their activity is greatest near the surface. This is clearly apparent in the development of young fruit trees of five or six years' growth where mulching or surface manuring has been practised. Within a few inches of the surface there is a complete network of slender roots, or spongioles, whilst not a root has penetrated the soil beyond a foot. Where no surface manuring has been practised the trees are sending down tap-roots to a considerable depth into the subsoil. In waterlogged soils these organisms are destroyed, hence the effort of the scientific cultivator is to have the land drained, keep the manure near the surface, and wherever practicable, to keep the soil frequently stirred."

Writing on the depreciation of land (which he evidently regards as a reaction on inflated values), and on the future prospects of farmers, Mr. W. E. Bear, an admitted authority, writes:—

"I am far from desiring to represent the prospects of farmers in too optimistic a manner. They will possibly have a struggle for years to come, and they will need the advantages of moderate rents and many improvements in the economy of farming and marketing to which references will be found in other parts of this volume. It must not be forgotten that the enormous advance of rents which followed the Russian war did much to produce the crisis which made land for many years a drug in the market. Landlords and farmers alike were greatly injured in the long run by the war prices; but neither such prices nor the mad scramble for farms at any rent will be likely to recur. What is to be looked for is moderate agricultural prosperity, with its natural consequence, an improved demand for land. I believe that capital sunk in land at present prices will prove an excellent investment, and that farmers who take leases at current rents will have reason to congratulate themselves a few years hence. There is much to be done by Parliament, by landlords, and by farmers themselves to bring farming in this country under the most favourable conditions for its full development, but if all

who are responsible in this connection will co-operate in efforts for the advancement of agriculture, there will be every reason to count confidently upon the prosperity of the oldest and most important of all industries."

Among the writers on fruit culture as improving the value of land we find Mr. J. Wright. After strongly denouncing the promulgation of fabulous profits, based on the prices of prize fruits or an unusually productive tree, he still goes on to say:—

"There is no known case where the best varieties of hardy fruits have been planted in appropriate positions and fertile soil of good staple during the past ten years in this country, and the trees and bushes have made good progress under good culture, that the value of the land has not been substantially improved. That broad general fact is significant and encouraging. There is not a land agent or valuer in the kingdom who can say that plantations of thrifty young fruit trees, either in the bearing stage or approaching it, do not increase both the letting and selling value of properties on which they are established. Ancient orchards of debilitated trees in inferior varieties planted in bygone generations may, and doubtless do, give a 'bad character' to land; their woe-begone appearance is depressing and suggests poverty of the soil, which they have, in fact, long since deprived of the essentials to healthy growth and productiveness. It has to be remembered, however, that those orchards and trees do not represent culture but neglect, and the natural concomitant of this always has been, is, and will be depreciation in the value of land in those rural districts where it can only be devoted to the production of food for the animal world and the human family. Young trees possessing vigour of growth, and branches studded with spurs and bold buds, the certain precursors of blossom, have an exactly opposite effect; they represent 'culture,' and impart a value to the land they occupy that it could not possess under ordinary agricultural tillage. This is proved to demonstration, not in Kent only, but wherever a well-conducted system of fruit culture has been in operation during the past few years. Where no mistakes have been made in planting, or after management, the results have been such as to lead to an extension of the practice as capital was forthcoming and more land could be acquired, while there has been a great increase in the number of fruit growers in those districts where profitable object lessons have been afforded to enterprising pioneers."

Such growers as Messrs. Bunyard, Rivers, Baillie, and others are mentioned in this connection; and Mr. H. A. Bond of Swanley, in an able and suggestive chapter, gives expression to similar views, sensibly observing that—"Although fruit growing is being profitably conducted as a distinct industry, attention is here directed to it as an adjunct to mixed farming rather than as a substitute for it. It would be idle to suppose that fruit growing can prove a panacea for all the ills of the farmer, but it may aid him greatly in his perplexity."

These few extracts denote the nature of the work on those particular questions, but there are dozens more treated by able men, and it may be expected that "Land: Its Attractions and Riches," will find its way into the libraries of landowners, cultivators, and others who are interested in the various aspects of the great and undeniably important subject in which they are embraced. The volume is a substantial one, well printed, and considering its size (900 pages) cannot be regarded as expensive.

FUNCTIONS OF VINE LEAVES.

MR. IGGULDEN'S remarks under the above heading, on page 115, will have been read with interest by Grape growers, as they were by myself. My experience is quite in accord with his as to stopping laterals—namely, that there is no advantage in stopping these more than two leaves beyond the bunch. I have at present under my charge Vines planted little more than 2 feet apart, and it has been my practice this last dozen years to stop all the strongest laterals at the bunch, leaving none beyond, the medium at one leaf, and the weaker two or three leaves from the bunch. I think when a lateral is stopped at the bunch the sap is forced into it, and gives it a vigour in its early stages that it would not otherwise have. The sub-lateral at the bunch is allowed to make two or three leaves before being stopped, which is generally enough to fill the limited space at command. In my younger days I was taught to take out all the sub-laterals between the rod and the bunch. This I think is a great mistake, and now I only stop them when they are getting above the leaves on the lateral. If stopped once they do not often break again, but the few leaves they make are a great help to the smaller leaves at the base of the laterals to produce plump buds where they are most needed at pruning time. With these sub-laterals properly managed there will not be much to complain of as to the bunches getting smaller or fewer through the laterals being shortened in the way spoken of by your correspondent.

Mr. Iggulden's experience as to cutting bunches with a good part of the wood with them for exhibition does not agree with that of Mr. Roberts. That gentleman, in a paper read at a meeting at Brighton two or three years ago in connection with the Fruit Growers' Association, and subsequently published in these pages, stated that when he was an exhibitor of Grapes he could not but notice that he very frequently cut his best bunches for this purpose from the same spurs: and from this he concluded that a partial shortening of the laterals after the fruit was cut was a practice to be commended. To let a little more light into

a house after the crop is cut I think is most desirable. It raises the temperature of the house without fire heat on warm days, so necessary for the ripening of the wood; and if there are healthy foliage and sub-laterals at the base of the shoots there need be no anxiety about cutting away the green tips of the laterals to attain that end. By doing so the buds to be left at pruning time have a better chance of swelling, and will break freely in spring.

With what Mr. Iggulden says about laying in unnecessary lateral and leading growths I quite agree. It is now, I daresay, nearly twenty years since I condemned the useless extension of leading growths in the *Journal*, and I have never since had occasion to change the opinion then expressed.—R. INGLIS.

UNTRANSPLANTED CELERY.

A FEW gardeners advocate the transplanting of Celery direct from the seed pan to the trenches, but so far as I know none has advocated the plan of sowing the seed where it is to remain. There seems to be no reason why that practice should not be followed. I grow 450 plants, all sown indoors and pricked out in boxes before being transferred to the trenches, and amongst them I have not a dozen better plants than one which has sprung from seed accidentally sown with the Onions on March 24th. The soil is very heavy, nearly approaching clay, and at the winter digging it received a moderate dressing of stable manure. When dry in spring it was thoroughly pulverised, and afterwards rolled say half a dozen times with a heavy iron roller. The drills were then drawn rather deep and partly filled with a mixture of old potting soil, soot, and wood ashes. On this the seed was sown and the drills filled up with the same material; the roller was again passed over the ground twice or three times. Since then beyond hoeing to keep down weeds nothing has been done to help on the Celery plant; it is now 24 inches high and proportionately strong.

In some gardens, I believe, it is now the custom to plant late Celery on the level ground, and there appears to be only one objection to sowing the seed at suitable distances and thinning out much in the same way as Turnips and Lettuces are treated, and that is the liability to destruction by slugs when the plants are small. It ought, however, to be no more difficult to keep these marauders from Celery than from other things of which they are equally fond. The advantages of the plan are many, not the least being a saving of valuable space under glass in spring when every available house and frame is generally overcrowded. So treated, too, the plants will be less liable to checks, and consequently the risks of bolting will be considerably reduced, and much time spent in watering may be saved. I may say that the plant has not had any advantages in the way of a warm situation, as the garden is situated on a hill in a district notoriously cold, and at the north side has no protection, not even a hedge, being separated from the grass fields only by an iron fence.

While on the subject of Celery I should like to say a few words in praise of Incomparable Dwarf White. For early use it is invaluable, being more easily blanched than any other variety that I know, and if thickly planted will partly blanch itself. In a trench or sunken bed 20 feet by 2 feet 6 inches I have 120 plants, and on earthing up yesterday we found that the heart of each plant was already blanched, and in a fortnight will be quite ready for use. Last year we had it well blanched fourteen days after earthing.—NORTH YORKS.

WHICH ARE THE BEST STRAWBERRIES?

CIRCUMSTANCES must guide the cultivator in a selection of kinds. What suit some soils will not succeed in others. Then, again, there is the question of palate; this varies also. The soil here is not good for Strawberries, too much chalk being mixed with it. Strawberries do not like chalk; the roots do not last so long in it, the foliage generally assumes a pale colour, and the finest fruit, as a rule, does not come from such plants. The most useful of all is Vicomtesse Héricart de Thury; it is an enormous cropper. The fruit is, perhaps, rather small, but the flavour is excellent, and that is of more consequence than mere size. This variety, taking one year with another, is not very much behind Noble in earliness. The foliage protects the early blossoms from late frosts, owing to its somewhat dense character. Again, I find the roots of this sort less injured by severe frost than any other; while perhaps a dozen roots were killed in one row of other sorts, not a gap was to be seen in rows of the Vicomtesse growing alongside.

Sir J. Paxton is the great sheet anchor of the market people in this neighbourhood. Although not of a very high flavour, it is a good grower, a free bearer, and the fruit travels well, which is a decided point in its favour, the flesh being firm. I have tried Dr. Hogg and British Queen, and in our soil must give the preference to the former, it being hardier and more free in its cropping. The flavour is of the best. President is the next sure kind I recommend, not having had experience enough with Waterloo to speak with confidence. President is free in fruit production, the berries reach to a good size, and are of fair flavour, there being just a taste of acidity in them from this soil.

Sir J. Paxton has such a habit of continuance that it is really the latest sort as well as sometimes being the earliest. This question of earliest is largely dependent on the weather. The four sorts mentioned will be found quite first-rate where quantity is required consistent with quality.—E. M., *Swanmore*.



GUSTAVE GRUNERWALD.

A PHOTOGRAPH and bloom of a very promising new early Chrysanthemum named Gustave Grunerwald have been sent to us by Mr. W. Piercy, 89, Beadnell Road, Forest Hill, London, S.E., and fig. 21, which was prepared from the photograph, represents it. It is a Japanese variety, with tubular florets, the central ones curled inwards. The plant shown was grown in a 32-size pot from five cuttings, put in the 5th of April, 1892, and was photographed on August 5th. It was then 19 inches high from the soil in the pot. The open flowers were 4 inches across, of a pale magenta or rosy lilac to white colour. It was grown and flowered entirely in the open air, had only two small pegs to support it, and had no buds taken off. As an early bloomer it is one of the most remarkable yet introduced. It was raised by Mons. Délaux of Toulouse, France.

DWARF CHRYSANTHEMUMS.

At Kineton House, the residence of Lord Willoughby De Broke, Mr. Hall has this year grown a capital batch of Chrysanthemums, which are much dwarfer than those generally met with. Plants of Etoile de Lyon in 7 and 8-inch pots were in some cases not more than 1 foot or 15 inches above the rim of the pots,



FIG. 21.—NEW EARLY CHRYSANTHEMUM GUSTAVE GRUNERWALD.

and as far as I could judge no plant in the collection was more than 3 feet in height, although such tall varieties as Carew Underwood were grown. There may be two opinions as to whether it is desirable to grow Chrysanthemums with only three shoots quite so dwarf as this. Assuming that it is, there would be no difficulty in doing it either by striking the cuttings late, by topping, or cutting down the plants. Mr. Hall, however, assured me the cuttings were put in during November, and had neither been topped nor cut down.

The yellow Marguerite, Etoile d'Or, was also in capital condition at Kineton House, being quite free from maggot, and growing much more freely than this variety generally does. Mr. Hall finds that to keep it in good health it must be well fed, there is then no fear of the maggot.—H. DUNKIN.



EVENTS OF THE WEEK.—The ensuing week will be a somewhat busy one. To-day (Thursday, August 18th) Shrewsbury and Cardiff Shows are continued, while Aberdeen opens, the latter being continued on the 19th and 20th. On Saturday, the 20th, the National Co-operative Show takes place at the Crystal Palace. On the 23rd and 24th the Royal Horticultural Society will hold an Exhibition and Conference on Begonias, Ferns, Apricots, and Plums at Chiswick. The Exhibition of the Royal Horticultural Society of Ireland takes place on the 24th. On the 24th, 25th, and 26th the Great Show at Newcastle-on-Tyne is held, and on the 25th there will be Exhibitions at Droitwich and Kenilworth. A sale of Orchids will be conducted at Messrs. Protheroc & Morris' Rooms on Friday, August 19th, and of bulbs on the 22nd.

— **THE WEATHER IN LONDON.**—Warm, bright, and genial weather has prevailed during the past few days, and the rainfall has been very slight. Rain fell for an hour or two on the morning of the 16th, but the latter part of the day was brilliantly fine. At the time of going to press the barometer is falling and the wind is very variable, so that rain may be expected.

— **POTATO DISEASE.**—The Potato disease made an early appearance in this part of Suffolk, being plainly visible in the garden allotments by the third week in July, and in spite of the dry weather the tubers are already considerably affected. It is almost the universal practice about here for cottage gardeners and allotment holders simply to leave the diseased tubers to rot on the land where they are taken up, and in many cases to grow Potatoes again on the same plot next year. I do hope the Instructors in horticulture appointed under the Technical Instruction Committee of the County Council will point out that common sense ought to show, as clearly as scientific knowledge, that such a system affords every possible encouragement to a renewal of the disease.—W. R. RAILLEM.

— **PEA SHROPSHIRE HERO.**—Having tried several of the newer varieties of Peas this season I have no hesitation in placing the above, raised by Mr. Eckford, amongst the finest Peas I have seen. It produces fine pods abundantly, and is of excellent flavour; it is also robust in habit, and has not grown higher than 3 feet. It is in my opinion a Pea to be remembered for another season.—R. P. R.

— **DISQUALIFIED COLLECTION OF FRUIT AT TRENTHAM SHOW.**—Like "W. H. M." I fail to see upon what basis the Judges grounded their decision when they disqualified Mr. McIndoe's collection of fruit because it contained two varieties of Pines. The terms of the schedule, as quoted by your representative and by Mr. McIndoe, clearly state that nine dishes are required to complete the exhibit, of these four kinds are specified to be included, and presumably the other five dishes may consist of any varieties of fruit the exhibitor chooses to stage. I venture to say this is the interpretation ninety-nine out of every 100 exhibitors would place upon the words of the schedule. In the absence of any stipulation or rule to the contrary the Judges could not have any right to deprive Mr. McIndoe of the prize he was justly entitled to.—W. H. D.

— **EXHIBITION POTATOES.**—I have found it needful on more than one occasion to invite exhibitors where there are classes for two or more dishes of round or kidney Potatoes at shows to set up varieties that are distinct in colour if possible, so that there may be no question as to distinctness of sort. We have such good varieties of coloured rounds as Reading Russet, Vicar of Lalcham, The Dean, Conference, and General Gordon, so that there is no reason to set up all whites and much alike. When two sorts are invited, even in the case of both being kidneys, there are Ruby, Prizetaker, Edgcote Purple, Bedford Purple, Beauty of Hebron, and others available, so that there is no excuse for putting up only white sorts. Perhaps the most popular white round is Sutton's Satisfaction, for it turns up everywhere, but it also in some soils assumes a long or kidney form, and thus it is sometimes found in both round and kidney classes. Any variety ordinarily exhibited in one section should never be accepted in the other, as it cannot be both round and kidney.—A. D.

— **WEIGHT OF CURRANT CROP.**—Mr. F. A. Bowman informs us that he has gathered 27 lbs. of the Red Grape Currant from one bush, and 20 lbs. from another, or 50 lbs. from two bushes. Our correspondent would be "glad to know the heaviest weights of Red and Black Currants from a bush or tree."

— **MR. A. H. JOHNSON,** for many years manager for Messrs. Armitage Bros., seed merchants, Nottingham, has joined the old-established firm of Messrs. Fletcher, Son & Co., Chesterfield, in partnership, and the name and style of the firm in future will be Fletcher, Douglas, and Johnson.

— **EARLY HOPS.**—The first pocket of this year's Worcester Hops passed the public scales on Friday, the 12th inst. They were grown by Mr. H. T. Taylor, of Showle Court, Ledbury, and purchased by Messrs. Edward Webb & Sons, Hop and Seed Merchants, Wordsley, Stourbridge, who sold them to Mr. Benjamin Elwell of the Delph Brewery, Brierley Hill, at £10 per cwt.

— **A PLEASANT DAY'S OUTING.**—Messrs. J. Laing & Sons, accompanied by some eighty of their employes, spent a pleasant day in Folkestone on Friday last. The senior partner presided over a substantial dinner, when the toast of his health and the prosperity of the firm was enthusiastically received by the staff. Special carriages were engaged for the journey.

— **HYBRID VALLOTAS.**—Mr. A. J. A. Bruce, Chorlton-cum-Hardy, Manchester, sends us blooms of some hybrid Vallotas, marking many variations in colour from V. purpurea. No. 2 is blush, No. 3 rose, No. 4 deep salmon, No. 5 light scarlet, No. 6 deep scarlet, and No. 7 bright scarlet. They are very brilliant in colour, and may be looked upon as very desirable acquisitions. The old Scarborough Lily is so useful a plant that distinct forms such as these are well worth having.

— **THE WEATHER DURING JULY AT RIPLEY, YORKS.**—The weather was mostly dull with cool nights, but was fairly dry. On several occasions the thermometer fell as low as 35°. On twenty-two days the wind blew from northerly and easterly directions. The total rainfall was 1.53 inch, which fell upon nine days, the greatest daily fall being 0.80 of an inch. Mean reading of barometer, 30.07; mean maximum temperature, 66°; mean minimum temperature, 40.8°; mean temperature 53.4°. Highest maximum temperature, 77° on the 3rd; lowest minimum temperature, 32° on the 18th.—J. TUNNINGTON, *Ripley Castle Gardens*.

— **EXHIBITION AND CONFERENCE ON BEGONIAS, BRITISH FERNS, APRICOTS, AND PLUMS.**—On Tuesday and Wednesday next, August 23rd and 24th, the historic gardens of the Royal Horticultural Society at Chiswick will be enlivened by an Exhibition of Begonias, Apricots, and Plums, in addition to which growers of British Ferns will contribute specimens of our native Cryptogams, by way of showing what beautiful forms and varieties may be obtained by patient cultivation and careful hybridisation. All the Committees will meet in the Gardens at 11 A.M. precisely on Tuesday, August 23rd, and there is no doubt but that two of them—viz., the Floral and Fruit—will have a busy time of it, while exhibitors of Orchids will receive the attention of the Orchid Committee at the same time. Every amateur grower of Begonias, Apricots, Plums, and British Ferns should endeavour to take part in this Exhibition, and should at once, if it has not already been done, communicate the nature of his exhibit to the Garden Superintendent, so that due provision for space may be made in good time. In accordance with the policy inaugurated a few years ago, the Society will hold a Conference in the great vinery on each of the above-mentioned days at 2 P.M. The subject of the first day's Conference will be "Begonias." Mr. Harry J. Veitch, F.L.S., has consented to take the chair and open the Conference, after which papers will be read by Messrs. W. Watson, J. Laing, and H. Cannell on the "Cultivated Species of Begonia," "Tuberous Begonias," and "Winter-flowering Tuberous Begonias" respectively. On the second day (August 24th) the Conference on Apricots and Plums will be presided over by Dr. Robert Hogg, F.L.S., and Messrs. T. Francis Rivers and J. Smith will read papers on "Dessert Plums" and "Cooking and Market Plums" respectively, while Mons. F. Jamain, of Paris, will contribute a paper on "Apricots." Besides the Exhibition of flowers and fruit which will be brought together on this occasion, it may be stated that the gardens themselves look extremely beautiful at present, and will well repay a visit—not only from gardeners, but also from ladies and gentlemen interested in the promotion of horticulture.

— **MONARDA DIDYMA.**—This hardy plant is at Rede Hall truly beautiful. It grows in big clumps about the borders, flowering profusely, and giving large masses of bloom of a rich crimson scarlet hue. This is an indispensable adjunct to hardy plant borders, and seems to like stiff soil. It is sometimes known as the Oswego Tea plant.—A. D.

— **CHILDREN POISONED BY LABURNUM SEEDS.**—We have more than once pointed out the danger of Laburnum seeds to children and animals. It is reported that while a number of pauper children were proceeding from school to the Sunderland workhouse they commenced to pick seeds from Laburnum trees, and a quantity were eaten. Several children became ill, four of the girls being in a state of complete collapse, and twenty others had to undergo medical treatment. We believe the whole of them are recovering.

— **A LAY SERMON ON FLOWERS.**—A morning paper notes a somewhat new departure at Ipswich. Dr. Taylor, the well-known editor of "Hardwicke's Science Gossip," a layman, preached a sermon in one of the churches. It is true he did not venture into the pulpit, but he put on a surplice and discoursed on flowers. To the average man it must appear a very sensible arrangement to choose for the preacher of what is known as a flower sermon one who is remarkably well acquainted with the subject he is dealing with.

— **FINE CANON HALL MUSCAT GRAPES.**—Grand examples of this most excellent Grape may be seen at Shipley Hall, Derbyshire. Since these unique gardens have been under the management of Mr. Elphinstone the public has been treated to many examples of high-class Grape culture, and I am glad to learn that Mr. Elphinstone intends sending some of the above rare specimens to the forthcoming International Fruit Show, to be held at Earl's Court on the 26th and 27th inst., where they will not improbably be one of the chief attractions.—J. L.

— **DENBY FLOWER SHOW.**—The annual Exhibition of the Denby Floral and Horticultural Society was held on the Cricket Ground, Denby, on Saturday. The day was fine, and the attendance of visitors large. The exhibits were divided into two principal classes—viz., those residing within the parish, and those who were practical gardeners residing within four miles of Denby. There was also a farmers' class, and one for Day and Sunday School children. The special prize list included industrial work, which is a feature peculiar to this Show. Although we cannot find space for particulars, we are pleased to record the success of the Show.

— **OLEARIA HAASTI.**—Introduced by Messrs. Veitch of Exeter in 1858, this hardy New Zealand shrub deserves to be kept under notice. It forms bushy specimens; the leaves are deep dark green and shiny, each about three-quarters of an inch long. Though at first sight it would not appear so, this shrub belongs to the large natural order Compositæ, sub-order Asteroideæ. The flower heads are numerous and corymbose, the heads have two to five ray flowers, the ligules being a quarter of an inch long, and white. *O. Haasti* is found in the province of Canterbury, N.Z., growing at an elevation of 4000 to 5000 feet, and varies slightly in habit according to the situation it grows in, being dwarfer and darker in colder than in sheltered positions.—C. K.

— **THE GREAT FRUIT SHOW AT EARL'S COURT.**—There is every promise of a very fine show of fruit at Earl's Court on August 26th and 27th. Intending exhibitors who have not sent in their entries should do so at once. The prizes are excellent. In the first of the forty-six classes prizes of £12, £9, £6, and £4 are offered for a collection of fruit not less than twenty dishes. In this collection four varieties of Grapes (two white, two black—two bunches of each variety), two Pines, two Melons, two dishes of Peaches, two of Nectarines, and two of Plums are required; the remainder to be distinct. In the second, £8, £6, £4, and £3 are offered for twelve dishes, and prizes of equal value are offered for ten varieties of Grapes, two bunches of each. There are eleven classes for Grapes altogether, two for Pine Apples, two for Figs, six for Peaches and Nectarines (grown and ripened out of doors), five for Plums, nine for Apples (the first five for outdoor fruit), four for Pears (two for outdoor fruit), and four for Tomatoes. In connection with the Show a social gathering of the gardeners of the United Kingdom will be held on the afternoon of the 26th, followed by a dinner in the exhibition building, which, with liquid refreshments included, will be provided at 4s. a head. As only a limited number can be accommodated, the tickets will be issued according to priority of application. Dinner at 5 P.M.

— **BECKENHAM FLOWER SHOW.**—Favoured with genial sunshine and the most temperate of breezes, the annual Show of the Beckenham gardeners and amateur horticulturists was recently held in the Croydon Recreation Ground. The extensive ground in which the Show marquees were placed enhanced to a great degree the *éclat* of the day, and the musical attractions went far to make the affair a highly enjoyable garden party and fête. The judging was finished about two o'clock, at which hour the hon. member for the Sevenoaks Division declared the Show open. The exhibits were disposed in three commodious marquees.

— **CHILHAM FLOWER SHOW.**—The fourteenth annual Show of the Chilham Gardeners' Society was held in Chilham Castle grounds, kindly lent by C. S. Hardy, Esq., on Thursday week in beautiful weather. There was a large number present, and the band of the 3rd and 4th battalions of the Buffs was in attendance. The show of fruit, flowers, and vegetables was an excellent one throughout. A large number of Palms, Ferns, Cockscombs, Begonias, Caladiums, Pandanus, and several other foliage plants were sent by Mr. W. Douglas, gardener to C. S. Hardy, Esq., and these occupied half of one side. Mr. P. H. Pierce, of St. Dunstan's, Canterbury, also sent a good number of plants.

— **LEIGH FLOWER SHOW.**—The annual Flower Show held at Leigh, near Uttoxeter, took place on Thursday, and was well attended by visitors. The exhibits showed considerable improvement upon previous years, and there was an excellent competition for the special awards for butter. The prizes were distributed on the lawn in front of Leigh Rectory, the residence of the Ven. Archdeacon of Stoke, by Mrs. Morton Philips. At the same time Mr. J. W. Philips, on behalf of the parishioners, presented Mr. Marlowe, late station master at Leigh, with a cheque for twenty guineas. Very opportunely, a lecture was given by Mr. Robert Cock, the County Council Instructor, in cottage gardening.

— **THE WEATHER LAST MONTH.**—July was very changeable and showery up to the 20th but finer afterwards. We had only seven bright days, one of which was partly clear. The wind was in a northerly direction nineteen days. The temperature varied very much, and we had gales on the 7th and 19th. The barometer was highest on the 24th at 9 A.M. = 30.40, lowest 29.50 at 10 P.M. on the 19th. Total rainfall 2.30 ins., which fell on twelve days, the greatest daily fall being 0.87 inch on the 16th. Highest shade temperature 84° on the 3rd, lowest 42° on the 1st, 18th, 19th, and 21st; lowest on grass 40° on the 1st, 19th, and 21st. Mean of daily maximum 66.29°, mean of daily minimum 48.87°, mean temperature of the month 57.38°. The garden spring ran 20 gallons per minute on the 31st.—W. H. DIVERS, *Ketton Hall Gardens, Stamford.*

— **SHARPE'S QUEEN PEA.**—This very fine, straight green-podded Pea bids fair to oust the Duke of Albany from its high place as the leading show Pea. I do not think that any judge at a flower show on comparing the two varieties would hesitate for one moment in making an award in favour of the former if the samples were good. The pods of the Queen are flattish, never puffed or hollow, they open very freely and are found to contain ten or eleven good sized, very green peas, sweet and of good flavour. Very large peas are as objectionable as are puffy pods. I have seen several dishes of this new Pea during the season, and find no difficulty in giving to it the highest awards. I was pleased to see that the best of the very fine Peas which Messrs. Sutton and Sons sent to the Drill Hall last week, New Marrowfat and Perfection, were of the Queen type, and in that respect should make first-rate market as well as exhibition sorts.—A. D.

— **FLORAL FETE AT CREWE.**—Mrs. Cotton-Jodrell, wife of Colonel Cotton-Jodrell, M.P., opened the annual floral fête and musical festival in the Borough Recreation Grounds, Crewe, on Saturday. The weather was fine, and there was an enormous attendance from all parts of Cheshire. The exhibition was one of the best ever held, and Mrs. Cotton-Jodrell, who was accompanied by a party of friends, warmly praised the collections. Lord Crewe sent a magnificent lot of plants not for competition. Among the leading prizetakers in the gentlemen's classes were the Duke of Sutherland, Mr. Bromley-Davenport, M.P., Mrs. Bennett (Shrewbridge Hall), Mr. W. H. Verdin (Darnhall Hall), Mr. Worthington, and others. A special feature of the Show was the exhibition of plants grown in the cabins of signalmen up and down the L. and N.W. Railway. Some of these were magnificent specimens, and covered with flowers. The show was the most successful yet held. During the afternoon the Blue Hungarian Band gave selections of music.

— *CATALPA BIGNONIOIDES*.—One cannot help noticing that this fine deciduous tree is being planted largely for effect in large borders and as specimens on lawns. The tree naturally assumes a good shape and attracts notice by means of its large heart-shaped leaves, but those who have not seen a good specimen in full flower at this time of the year have missed a fine sight. A large tree near the succulent house at Kew is flowering finely, and I noticed a good specimen the other day in full flower overhanging the main road near Staines Bridge. The flowers are white, speckled with purple, and streaked with yellow, borne on terminal branching panicles. *C. bignonioides* was introduced in 1726, and is a native of the banks of the Ohio and Mississippi, where it grows to a height of 40 feet.—C. K.

— SIXTY TONS OF GRAPES FROM HAMPTON COURT. — Under this sensational heading a daily contemporary says:—"There will be 1500 bunches of Grapes to cut from the great Vine at Hampton Court this year. The Vine is precisely the same age as the Royal Academy, 124 years, and while modern art as typified by this institution has grown and flourished, the Vine has been bearing more and more until by the end of the present century—if no mishap occurs—it will have borne nearly 200,000 bunches, or at least 60 tons during its career. Only a few bunches are in condition at present, but before the end of the month supplies will be sent daily for the use of Her Majesty, who with the assistance of the Royal household uses the greater proportion of the total yield. On one or two occasions, however, the Queen has commanded that supplies should be sent to one or two hospitals, strictly for the use of the patients."

— WYCHBOLD FLOWER SHOW.—A horticultural Show was held in the grounds of Wychbold Hall on Saturday afternoon in connection with the village Club. The exhibits were of excellent quality, and included honorary displays by Mr. Parker, gardener to John Corbett, Esq., of Impncy, and Mr. R. Holmden Amphlett of Wychbold Hall. The following were the principal prizewinners:—Messrs. J. Jones, G. Honeybourne, W. Workman, J. Smith, T. Smith, F. Wattis, J. Farmer, T. Sproston, C. Cuff, W. Smith, J. Wattis, C. Stevens, J. Goddard, W. Pinches, and Mrs. Workman. The following prizes were awarded for the neatest and best cultivated allotments and cottage gardens:—Sir H. F. Vernon's allotments—1, C. Stevens; 2, W. Smith; 3, H. Smith. Mr. R. H. Amphlett's allotments—1, C. Stevens; 2, T. Sproston; 3, W. Bennett. Wychbold Cottage Gardens—1, G. Honeybourne; 2, J. Farmer; 3, S. Sproston. Mrs. Amphlett gave away the prizes in the evening.

— RIPENESS IN MELONS.—A great deal more attention might well be bestowed on the indications of ripeness in Melons than appears now to be given, judging by the condition of much of the fruit that is exhibited. So much of it is either under or over-ripe that the questions arise, Are gardeners unable to estimate the ripeness of Melons, or are they counting on similar ignorance on the part of the judges? At a recent Show three fruits were tasted, two of which were over-ripe, one so much so as to be, in my opinion, positively dangerous to eat. A portion of the mouthful taken slipped down my throat unexpectedly; it was fortunate that the greater part did not follow it, but was promptly expelled, for the after effects were not pleasant. To have partaken freely of fruit in such a condition would probably have led to evil results, and it cannot be urged too strongly upon gardeners that the utmost care should be taken in sending fruit to table at this period of the year.—E. H. M.

— FEATURES OF MOROCCO.—In one of his despatches Sir C. Euan-Smith gives the following interesting particulars of the features of the country through which the mission passed:—"The country which we passed through was, without exception, beautiful and fertile; it exhibited a great want of population, towns, and villages, though the plains in every direction were dotted here and there with tents and huts containing ten or twelve human beings. The main characteristics of the country were the entire absence of trees and the great quantity of water; in every direction, and at short intervening distances, we met with streams of considerable size. We marched for days together over vast plains, surrounded on every side by hilly ranges, and covered as far as the eye could see in every direction with fields of waving and rapidly ripening grain. No one contemplating the immense area of land under cultivation could entertain any doubt as to the possibility of Morocco becoming the granary of Europe. I am informed, indeed, that in many districts the harvest of this year has been so universally plentiful that labour is altogether wanting to gather it in, and that much of the grain will have to remain rotting in the ground.

— *LITHOSPERMUM PROSTRATUM*.—Like "*D., Deal*," page 97, I had for a couple of years some difficulty in establishing this Alpine shrub in a satisfactory manner, but I have now overcome all obstacles, and am yearly rewarded with a lovely patch of brilliant blue flowers almost rivalling the Gentians close by. Our clump is growing on the bottom ledge of a rockery about 1 foot high; the roots run between this and a high upright stone at the back of the clump, which is favourable to moisture. I find this plant requires abundance, indeed during a spell of hot dry weather our plant receives copious supplies every week; were it not so the leaves and young shoots would soon exhibit a drooping appearance. The position is quite open to the midday sun, but cooler in the morning and evening. Peat only is what the plant is growing in. Being rather straggly I layered all the branches, using rough lumps of peat only, the result being a compact mass of short growths which are annually smothered with the charming blue flowers so much appreciated. To two things I attribute my success—the use of peat only for the roots to ramble in, and abundance of moisture at the roots.—E. M.

— ROYAL BOTANIC SOCIETY OF LONDON. — The fifty-third anniversary meeting of this Society was held on the 11th inst., Mr. George W. Bell in the chair. In presenting the reports of the Council and Auditors for 1892, the Chairman congratulated the Fellows upon the very satisfactory condition of the Society as compared with last year, both from a financial point of view and as a Society whose objects are the study of botany and horticulture, and the advancement of the arts and pursuits connected with it. The receipts show an increase of more than £300 over those of last year, a particularly gratifying result when the very unfavourable season is taken into consideration. The gloom that fell upon society in London at the beginning of the year in the peculiarly sad death of the Duke of Clarence was doubly felt by the Society, whose connection with the Royal Family has been both long and close. The various exhibitions and fêtes were successfully carried out and large attendances recorded, while the quality of the exhibits shown has been in every case above the average, and bears witness in a striking manner to the advance in the art and science of horticulture as evinced in the last few years. Among the more purely scientific work of the Society may be mentioned the botanical lectures given by eminent scientific men to all visitors to the Gardens during the summer months; also the facilities offered to students and others engaged in the study of botany or medicine, to whom nearly 700 free orders of admission have been granted for from one to three months each, as well as many thousands of illustrative plant specimens. The meeting closed with a unanimous vote of thanks to the Chairman and executive officers. The Duke of Teck was re-elected President and Mr. H. L. Antrobus Treasurer. Among the donations on the table were some fine Apples from Mr. S. W. Silver's estate in New Zealand.

— EASTWELL PARK.—A sale has been arranged by Messrs. J. A. Lumley & Co., of 35, St. James's Street, on behalf of the Earl of Winchilsea and Nottingham, of the celebrated Eastwell Park Estate, in the county of Kent. The purchaser is Lord Gerard of Garswood, Newton-le-Willows, Lancashire, and the price given is close upon a quarter of a million pounds. Eastwell Park was for many years the residence of the Duke of Edinburgh, and previously was occupied by the Duke of Abercorn. The estate comprises 6000 acres, and the park is one of the largest in the kingdom, exhibiting in its vast extent of surface every variety of scenery. Its noble avenues and forest-like masses of magnificent timber, tenanted by herds of deer, have a very imposing appearance. Eastwell, at the time of the Domesday, formed part of the possessions of Hugo de Montfort, who accompanied the Conqueror from Normandy. His grandson Robert, favouring the title of Carthorse, in opposition to Henry I., rather than be called in question for it, voluntarily exiled himself and gave up his possessions to the Crown. It afterwards came into possession of the eminent family of Carrol, from which it passed to Thomas de Poynings, and from this name by a female heir in the reign of Edward VI. to the Earls of Northumberland. In the reign of Henry VIII. it was purchased by Sir Christopher Hales, whose three daughters sold it to Sir Thomas Moyle, who rebuilt the mansion and died in 1560. His daughter Catharine carried it as a marriage settlement to Thomas Finch, afterwards Sir Thomas Finch. To Sir Thomas succeeded his son Sir Moyle Finch, whose widow, Lady Elizabeth, was in 1623 created Viscountess Maidstone, and in 1628 Countess of Winchilsea. She died in 1633. The present Earl of Winchilsea and Nottingham is a descendant of this illustrious lady. There is a tradition that Richard Plantagenet, a natural son of Richard III., after the battle of Bosworth, fled to Eastwell, and lived there in

obscurity till his death in 1550. There is an entry of his burial in the present registry. The house in which he lived and died he built by leave of Sir Thomas Moyle in a field near Eastwell Place. It was pulled down by Heneage, Earl of Winchilsea, who died in 1689. In the chancel of Eastwell Church is a fine monument to the Earls of Winchilsea.

AGLAONEMA COSTATUM.

AMONGST the plants introduced to public notice for the first time during the present season, a very prominent place must be given to the beautiful Aroid, *Aglaonema costatum*, exhibited by Messrs. J. Veitch & Sons at a meeting of the Royal Horticultural Society on May 3rd, and represented by fig. 22. It is a dwarf foliage plant of great distinctness and beauty, introduced by the exhibitors from the

resides on the outskirts of the town. Prior to the Show a call was made at Ashgrove, the seat of R. K. Hodgson, Esq., whose gardens and estate are managed by Mr. Charles Dunning, a gardener of sound judgment and admitted ability. The chief features of the pleasure grounds are splendid Beeches with towering Silver Firs rising high above them, and such imposing masses of Rhododendrons as are rarely met with. These, with the hardy Azaleas, which grow like Willows, must produce a glorious effect in May, and it is then we shall hope to see them. At present the Show, which was held in Knole Park, demands attention. Knole Park is the seat of the Earl of Sackville, and may be fairly described as one of the most beautiful parks in the kingdom. The mansion, too, is a stately pile, and is said to cover with its appurtenances five acres of ground. The pleasure grounds, of several acres, are surrounded by a wall, massive and apparently ancient, but were kindly opened to visitors to the Show. Broad glades of velvety lawn with stately trees and old-fashioned flowers render this a typical old English garden, and very delightful. A tree of note is a proliferous Lime. The



FIG. 22.—AGLAONEMA COSTATUM.

Perak region, and put into commerce for the first time last spring. The leaves are about 4 inches long and $2\frac{1}{2}$ to 3 inches broad. The spreading, broadly ovate blade, is dark glossy green and thickly sprinkled with creamy white spots, the midrib being of the same colour as the latter. The plant is of dwarf habit, attaining a height of 4 to 5 inches, and this, combined with its attractively marked foliage, renders it extremely useful; moreover, it is very effective in artificial light. It requires a stove temperature, but is of easy culture, little subject to insect attacks, and the old foliage retains its freshness for a long period. A first-class certificate was awarded to it when exhibited at Westminster, and the distinction was well deserved.

HORTICULTURAL SHOWS.

SEVENOAKS.—AUGUST 10TH.

SEVENOAKS is a clean, pleasant, salubrious, and apparently thrifty Kentish town, nestling in a fertile vale with beautiful surroundings of tree-clad hills and picturesque vistas. There are several noblemen's and gentlemen's seats in the district, and the genial Mr. Harrison Weir

branches of the original tree have reached the ground, rooted, and from these several trees have grown, about as large as the "mother." Then at a farther radius are others, smaller, forming quite a grove. The grounds are in admirable order, and have been greatly improved of late by Lord Sackville's gardener, Mr. E. Stubbs. Some historical particulars about Knole are too tempting to be passed. They were published with a prize list of the Show, in the form of a special edition of the *Sevenoaks Chronicle*, an hour or two after the judging was completed—smart work, which we are glad to recognise. After describing Knole as the glory of Sevenoaks, our contemporary goes on to say:—

"The origin of Knole House is lost in the obscurity of the past. The first trace discoverable in history is in the time of King John, when it was possessed by Baldwin de Bethun. Through the Mareschals, Earls of Pembroke, and the Bigods, Earls of Norfolk, it passed to Otho de Grandison, in whose possession it was in the time of Edward I. and in whose family it continued until the reign of Richard II., when it was conveyed by Thomas Grandison to Geoffrey de Say. In the reign of Henry VI. it was sold to James Fiennes. By his son, Sir William, it was sold to Thomas Bouchier, Archbishop of Canterbury, the fourth Archbishop before Cranmer. Bouchier restored and enlarged the buildings, as also did his successor, Cardinal Morton, who made it his chief residence. King Henry VII. was sometimes his guest. Morton died at Knole in 1500,

Henry Dene, the next Archbishop, chiefly resided at Otford Palace, which he in part rebuilt. Warham, the late Archbishop, before the Reformation, lived much at Knole, where he was often visited by both Henry VII. and Henry VIII. He died at Otford in 1532. Knole was given up by Cranmer to Henry VIII. by way of exchange. On his attainder it passed into the hands of Queen Mary, who gave it to Cardinal Pole. At his death it reverted to the Crown. Elizabeth gave it to Sir Robert Dudley, afterwards Earl of Leicester, who surrendered it in the eighth year of her reign. She then gave it to Thomas Sackville, afterwards Earl of Dorset. This Sackville was related to the Queen by intermarriage of his family with the Bollyns. He was reckoned the first poet of his day, and obtained equal eminence as a statesman. He entered Parliament in the reign of Queen Mary, and was employed by Elizabeth in many important offices. King James often visited him at Knole, where he had a bedroom for his sole use, the furniture of which cost £20,000. The bedstead, adorned with gold and silver tissue, lined with richly embroidered satin, alone cost £8000. Charles, the sixth Earl of Dorset, like the first, was also a poet and statesman. It is said that Dryden often visited him at Knole. There is a story told that once after dinner, when the wit of the company was flagging and even the wine did not loosen their tongues, it was proposed to try which could write the best impromptu. Dryden was to be judge. When the papers were read the poet said that there could be no doubt that the Earl's was the best. He had written, "I promise to pay Mr. John Dryden, on demand, the sum of £500." The great beauty of Knole is that it is almost unchanged in style, decoration, or furniture from the time of James I. It is a quadrangular house, principally of Elizabethan architecture, though the influence of the old ecclesiastical possessors is evident in the square-headed windows. The park is five miles round and skirts the Tonbridge road for a considerable distance. It abounds in fine woodland and forest scenery. Among the trees the King's Beech is nearly 28 feet in circumference, and displays as much top as three or four ordinary trees."

At last we came to the Show, not with the intention of giving anything approaching a detailed report, but rather for indicating its character, and noting the products of some of the chief prizetakers. It may be said at the outset that the Show was both extensive and excellent. Five marquees were filled, that devoted to plants, large as it was, being distinctly overcrowded. Specimen plants, groups of plants and Ferns, also vegetables, merit words of high commendation, and there was a good display of fruit.

Turning to the classes, we note that for six flowering plants in that number of varieties, Mr. A. Gibson, gardener to J. F. Burnaby-Atkins, Esq., Halstead Place, was first. He showed two *Dipladenias*, *amabilis* and *Brearleyana*, noble specimens in superb condition; fine examples of *Clerodendron Balfourianum* and *Anthurium Schertzerianum*, with a good *Allamanda* and *Ixora*. Mr. J. T. Goodman, gardener to Mrs. Crawshaw, Bradbourne Hall, was a good second with highly creditable specimens of *Anthurium Andreanum*, a *Stephanotis*, *Allamanda*, and *Clerodendron* being noteworthy. Mr. A. Hatton was third with smaller yet healthy plants. The single specimen class brought out some fine examples of culture. Mr. Gibson was first with *Dipladenia Brearleyana* on an oval trellis 4 to 5 feet high, covered with beautiful blooms (silver medal). Mr. C. Sutton, gardener to Earl Stanhope, Chevening Park, was an excellent second with *Dipladenia amabilis* in superb condition, and Mr. H. Elliott, gardener to Lord Hillingdon, The Wilderness, Seal, third with a wonderful mass of *Lilium auratum* increased from one bulb, presenting 300 flowers and buds. Mr. Goodman had the best specimen foliage plant, *Anthurium Veitchei*, with six handsome leaves; also the best six foliage plants, and good they were, comprising *Alocasia Thibautiana*, *Cycas revoluta*, *Crotons Williamsi* and *majesticus*, and a *Kentia* and *Latania*. Mr. Hatton second. The two last-named exhibitors were placed in the same relative positions with well grown *Fuchsias*, and Mr. Elliott exhibited fine plants not for competition. *Caladiums* were excellently shown, Mr. Hatton being first, Mr. J. Talmage, gardener to Miss Hodgson, Hernewood, a close second, and Mr. W. Handcock, gardener to Lord Dunsany, Dunstall Priory, Shoreham, third. *Begonias* made a bright display, the first prize collection of six from Mr. E. Hayes, gardener to J. Dixon, Esq., Edenhurst, containing an excellent plant of *B. Dregei*, 2 to 3 feet across. Some other classes are passed to notice the very fine Ferns of Messrs. Goodman, Hatton, and J. Bolton, gardener to Lord Amherst, Montreal, who were placed in the order named in the class for six plants. The first prize specimens comprised a grand example of *Microlepia hirta cristata*, *Davallia Mooreana* 7 to 8 feet in diameter, *Dicksonias squamosa* and *antarctica*, *Cibotium regale*, and a *Goniophlebium*.

Groups of plants arranged for effect were numerous and excellent, and the Judges could not have had an easy task in determining their relative merits. In the open class for a collection displayed in a space of 9 by 6 feet, Mr. G. Fennell, The Gardens, Fairlawn, Tonbridge, was the premier exhibitor with a free and charming association of Palms, blue and white Chimney Campanulas (*C. pyramidalis*), a low panel of Harrison's Musk outlined with *Streptocarpus*, two bold front corner plants of *Dracæna Lindenii*, a central mound of Orchids, and a margin of variegated *Panicum*. Second, Mr. R. Edwards, gardener to Barclay Field, Esq., Beechy Lees, a trifle too crowded. Third, Mr. S. Cook, gardener to De Barri Crawshaw, Esq., Rosefield, extremely close. Fourth, Mr. J. Hiding, gardener to H. E. Gordon, Esq., Igtham. Fifth, Mr. A. Hoadley, gardener to F. L. Bevan, Esq., Kippington Park. In the local class for groups Mr. W. Searing, gardener to R. Monkton, Esq., was first

with a pleasing association of well-grown plants; Mr. W. Heath, gardener to Mrs. Petley, and Mr. W. Martin, gardener to W. W. Johnson, Esq., Claridge House, respectively with creditable collections.

Prizes were offered for tastefully arranged groups of Ferns, and some charming effects were produced. The chief prize was well won by Mr. A. Hatton with a back central column of Maidenhair and other Ferns flanked with rustic work attractively furnished. The groundwork of the space was occupied with *Adiantum cuneatum* interspersed with taller plants of *Pteris tricolor* and other distinct Ferns. Having regard to the different heights and colour tints of the plants, the equal of this collection has been rarely seen and perhaps never surpassed. Mr. Goodman was second, his noteworthy plants being well grown examples of *Adiantum farleyense*; Mr. Heath a close third, and Mr. Fennell fourth. His Fern groups were a distinct and delightful feature of the tent.

In the fruit classes there was good competition. For a collection of six varieties, Pines excluded, Mr. T. Osman, Ottershaw Park, Chertsey, secured the foremost place with good Grapes, Peaches, Nectarines, Figs, and a Melon; followed by Messrs. Fennell and Goodman. Mr. Osman was also first with three bunches of black Grapes—fine Black Hamburgs; Mr. Hoadley second with unusually good Muscat Hamburgs; and Mr. Robinson, Hollingbourne, third with the first named variety. For three bunches of white Grapes Mr. Sutton was well to the fore with superb Muscats, Mr. Osman second with larger but not quite finished bunches, and Mr. Goodman third with good Foster's Seedling. In the open class for three varieties of Grapes Mr. Sutton led the way with Muscat of Alexandria, Madresfield Court, and Black Hamburg; all very good. Mr. Osman was second, and Mr. Goodman a very close third. In the local classes there was great and good competition, Messrs. Martin, Searing, Todd, and Noble being the most successful exhibitors. Mr. Hatton had the best Peaches (Barrington) and Mr. Gibson the best Nectarines (Lord Napier). There was a good display of Apples and Plums.

The table decoration and cut flower tent was beautifully furnished and a great attraction to visitors. Ten tables were displayed, Mrs. W. Searing, a gardener's wife, securing the highest award in close and excellent competition. Her table was lightly furnished, delicately tinted Sweet Peas preponderating in the central epergne and side stands, small finger glasses each containing a *Paneratium* flower set in *Gypsophila* and Fern. Mrs. Searle, an expert exhibitor, was a very close second with a tasteful and richer arrangement, and in turn was closely followed by other successful exhibitors. There was a large number of epergnes and bouquets, which cannot be particularised, nor can the cut flowers such as Roses, Dahlias, Asters, and others which contributed to the brightness of the marquee.

Vegetables must not be overlooked. In the two classes for nine and six dishes there were no less than twenty-seven exhibitors, the produce being neatly arranged in hampers, and as a rule excellent. Some of the Potatoes and Cauliflowers were too large, yet on the whole the display was most commendable, and competition as close as it well could be amongst the prizewinners. Mr. T. Robinson, Hollingbourne, after a long and close examination, was placed first with nine kinds, Cauliflowers, Carrots, Cucumbers, Onions, Peas, Potatoes, Scarlet Runners, Tomatoes, and Vegetable Marrows being of good medium size and high quality throughout. Mr. K. Baldwin, gardener to J. C. Crossley, Esq., Eynsford, was an extremely close second, and Mr. J. Snow, gardener to C. D. Murietta, Esq., Wadhurst Park, Sussex, third. There were eleven competitors. In the class for six kinds, sixteen hampers were placed in competition. Mr. J. Barney, Maidstone, won the chief prize with superior examples of Carrots, Onions, Peas, Potatoes, Tomatoes, and Vegetable Marrows. Mr. J. Buckland, Walthamstow Hall, and Mr. C. Noble, gardener to Miss Austin, Sevenoaks, followed very closely indeed in the order named. Five or six prizes would not have been too many in these splendidly filled classes. The cottagers' tent was filled with remarkably good produce, a credit to the growers of it and to the Show.

Amongst the trade exhibitors who contributed effectively to the Exhibition we noticed Messrs. Cannell & Sons, Swanley, a brilliant display of double *Begonias* and Dahlias; Messrs. James Carter & Co., Forest Hill, succulent plants and Caeti; Messrs. W. Cutbush & Sons, Highgate, a fine general display of plants and flowers; Messrs. J. Peed and Son, Norwood, good general collection; Mr. Charlton, Tunbridge Wells, a large assortment of herbaceous and border flowers; Mrs. Searle, Sevenoaks, cut flowers in great quantities; Messrs. Edmonds, Westerham, Sweet Peas and other flowers; Mr. Rumsey, Wrotham, Roses; and Mr. Spencer Chadwick, Shoreham, a good assortment of border Carnations.

The labour in connection with the Show must have been very great, but the experienced Secretary (Mr. A. Fenner) was equal to the task, and his coadjutors in charge of the several tents aided materially in the smooth working of the necessary details. The day was fine, visitors numerous, and there was every prospect of a financial success.

BURSTOW.—AUGUST 10TH.

THIS Show was held in delightful weather in the really charming grounds of Rede Hall, the residence of the famous anti-vaccinationist, W. Tebb, Esq., whose gardener, Mr. Cottle, is the esteemed Secretary. Burstow is quite a rural district, some three and a half miles from Horley station, and is, though in Surrey, close on to the borders of Sussex. The soil is largely of a stiff clay, that runs together and bakes; yet Conifers thrive wonderfully well on it, and at Bede Hall they grow literally by hundreds, singly, in clumps, and in lines or belts, so that a few years has enabled this beautiful place to become finely furnished

and well enclosed. The flower gardens and all departments are admirable, and a more charming place for a flower show, with the gardens all open to the public, could hardly be found.

In one tent a prominent feature filling the entire centre was a very fine group of plants arranged by Mr. Cottle. This comprised good Palms, Tree Ferns, Acalyphas, big plants, superbly coloured: rich Coleus, Dracenas, Caladiums, Fuchsias, Begonias, and Gloxinias in great variety. Messrs. Peed & Sons, Norwood, had a good group of plants. Mr. Tuck, gardener to R. B. Evered, Esq., Oatlands, had an effective group of Begonias in pots; Messrs. Cheal & Sons, Crawley, set up a charming collection of cut Dahlias, hardy flowers, &c.; Miss Emma Mepp, daughter of the reverend President, dressed a table with flowers and Ferns prettily, though rather too garish. All these exhibits were not for competition. Of groups in competition, all somewhat massive and heavy in character, the best was set up by Mr. Tuck, Mr. Wilson, gardener to J. Russell, Esq., coming second. Mr. Bickerstaff, gardener to J. Henderson, Esq., Edlingham Park, had the best six plants in three Ferns, very good, and three foliage, *Cissus discolor*, a fine dark Coleus, and a well coloured Dracena. Mr. Tuck was second, having in his foliage two similar Caladiums and a good red Dracena. Mr. Payne, gardener to J. Sotham, Esq., Gatwick, had the best three Fuchsias in small but excellent pyramids.

Of fruit, the best two bunches of Grapes, excellent Muscat of Alexandria came from Mr. Wilson, and the second best, same variety, from Mr. F. Sutton, gardener to H. Donaldson, Esq., Harlsea. The best three dishes of fruit, Peaches, Figs, and Plums, all good, were from Mr. R. Cornford, gardener to J. Whitechurch, Esq., Westlands; Mr. Tuck being second with good Peaches and Nectarines, and moderate Raspberries. Mr. Payne had the best brace of pretty golden Melons, unnamed. Very admirably set up were the twelve bunches of flowers from Mr. E. Brown, gardener to W. Morris, Esq., Oakleigh; Mr. T. Spark, gardener to A. A. Dowley, Esq., coming second with good bunches too heavily arranged.

Vegetables were good, Mr. Sutton having the best six sorts, Mr. E. Brown being second. Mr. Catt, gardener to E. J. Miller, Esq., had in a beautiful sample of Wells' Improved the best Cucumbers. The best dish of Peas in the Show was Sharpe's Queen, and the best round and kidney Potatoes, Sutton's Satisfaction and Snowdrop. Vicia of Laleham was also excellent. Carrots were exceptionally clean and handsome, the cottagers' samples generally being of the handsomest and best description.

Late in the afternoon, after a large company had gathered, the prizes were distributed by Mr. Tebb from the terrace fronting the house, and immediately after Mr. A. Dean, representing the Surrey County Council's Technical Education Committee, who, with Mr. Wells, of Earlswood, was Judge, gave an address to a large and greatly interested audience, taking for his theme the exhibits at the Show, and using many examples as illustrations of what constituted quality and beauty of form, or the reverse. On the motion of Mr. Tebb, seconded by the Rev. N. E. Mepp, President of the Society, a very hearty vote of thanks was accorded to the lecturer.

WILTS.—AUGUST 10TH.

THE annual Exhibition of plants, fruits, flowers, and vegetables which the above Society held on the 10th inst. in the beautiful and well kept grounds surrounding the picturesque palace of the Lord Bishop of the Diocese (Salisbury), was one of the best hitherto held in the Wiltshire capital. The weather was beautifully fine, the exhibits staged numerous and generally of excellent quality, while the arrangements of the Show were all that could be desired, and reflected great credit on the Committee and the Hon. Secretary, Mr. W. H. Williams.

Plants were shown in fine condition. In the class for twelve stove and greenhouse plants, distinct, six foliage and six in flower, Mr. Cypher, Cheltenham, was a good first; Mr. Wills, Winchester Road, Shirley, Southampton, was second, and Mr. Curry, Wilton Road, Salisbury, third. Mr. Cypher's collection contained *Latania borbonica*, about 14 feet across, having its huge leaves in very fine condition, *Cycas circinalis*, *Kentia australis*, *Crotons angustifolius* and *Sunset*, *Allamanda nobilis*, *Anthurium Schertzerianum*, having twenty-five or thirty fine spathes; *Erica Austiniana*, and *Statice profusa*, all bearing marks of high cultural skill. Mr. Wills' collection included good plants of *Kentia Forsteriana*, *Cycas revoluta*, and grandly flowered plants of *Bougainvillea glabra* and *Eucharis amazonica*. Mr. T. Wilkins, gardener to Lady Theodora Guest, Inwood, Henstridge, was easily first in the class for nine stove and greenhouse plants, four plants to be in bloom and five foliage; Mr. Wills was second, and Mr. Peel, gardener to Miss Todd, Sidford Lodge, Shirley, third. All showed good plants.

Mr. Wilkins was a good first in the class for six exotic Ferns, staging large healthy plants of *Adiantum farleyense*, *A. cuneatum*, *Cyathea medullaris*, *Thamnopteris nidus avis*, *Davallia Mooreana*, and *Microlepia hirta cristata*. Mr. W. Peel was second, and Mr. Evans, gardener to Lady Ashburton, Melchet Court, Romsey, was third, staging good plants. Mr. A. Robey, gardener to Captain Greenwood, Harnham Cliffe, Salisbury, was first for six Begonias, Mr. Wilkins and Mr. Wills being second and third in that order. Mr. Robey was also first in the class confined to exhibitors residing within a radius of six miles of Salisbury, showing well grown plants in each class. Mr. Bedford, Harnham, Salisbury, had the best six Fuchsias, and Mr. Wills the second best, both showing creditable exhibits.

Groups of miscellaneous plants arranged for effect in semicircles,

ranging from 12 feet in the open classes to 8 feet in diameter in the amateur classes, filled the centre of one large tent, and viewed from the entrance, or indeed from any standpoint in the tent, the effect was very telling, the tall slender arching spikes of white flowers of *Francoa ramosa* giving the whole a very chaste and finished appearance. Mr. Wilkins secured the premier position in the two principal groups with admirable arrangements, each having a good plant of *Seasforthia elegans* in the centre, with "dot" plants of *Hyacinthus candicans*, *Tuberoses*, *Celosia plumosa aurea*, *Cocos Weddelliana*, *Cattleyas*, *Oncidiums*, *Cypripedium barbatum*, *Aralias*, and the aforesaid "Bridal Wreath" (*Francoa ramosa*), the plants being stood in a setting of Maidenhair Fern, and fringed with *Isolepis gracilis* and *Caladium argyrites*. Mr. Wills and Mr. Robey were respectively second and third in the large groups; the first prize in this class being £5, and that in the next most important £4. In this Mr. E. Carr, gardener to W. E. Gilbert, Esq., Oak Lodge, Bishopstoke, and Mr. Peel were second and third in the order in which their names appear with capital arrangements. In the class confined to amateurs residing within a radius of six miles of Salisbury, Mr. G. Bath, gardener to Col. Pepper, Milford Hill, Salisbury, was first; Mr. F. E. Pearce, Crane Street, Salisbury, a capital second; and Alderman Lovibond, St. Anne Street, Salisbury, a good third. In the class for groups arranged in a semicircle of 8 feet in diameter Mr. Hinxman, gardener to H. G. Gregory, Esq., The Island, Salisbury, was first, and Mr. A. Maple, gardener to E. A. Rawlence, Esq., Newlands, Salisbury, second, both with good arrangements.

Owing to the approaching fruit Show at Earl's Court Mr. Ward, of Longford Castle Gardens, was, for the first time since the resuscitation of the old Wiltshire Society, a non-competitor in the fruit classes at this Show. However, there were a few new exhibitors, and the exhibits staged were fairly numerous, and for the most part of excellent quality. There were four collections of eight kinds (Pine excluded) staged. Mr. Evans, gardener to Lady Ashburton, Melchet Court, Romsey, was first, showing compact bunches of Gros Maroc Grape, fine in berry and colour, and large unripe bunches of Muscat of Alexandria, grand Brunswick Figs, Prince of Wales Peaches, Elrige Nectarines, Moorpark Apricots, Plums, and a Melon. Mr. McFarlane, gardener to William Baring, Esq., Norman Court, Salisbury, was a good second. Mr. Inglefield, gardener to Sir John Kell, Bart., Telworth House, Marlborough, was third. Grapes.—Out of five stands of three bunches of Muscat of Alexandria Mr. P. Davidson, gardener to Lord Wolverton, Iwerne House, Shaftesbury, was well first with medium-sized well-coloured bunches; Mr. Inglefield being second; and Mr. Budd, gardener to F. G. Dalgety, Esq., Lockerby, Stockbridge, third. In the corresponding class for three bunches of Black Hamburg Mr. Davidson led the way again with large well-coloured bunches, being followed by Mr. Neville, gardener to F. W. Flight, Esq., Cornstiles, Twyford, Winchester; and Mr. Warden, Clarendon Park, Salisbury, both showing well. Eight lots were staged. In the any other black Grape class Mr. Warden was first, staging fine examples of Madresfield Court, Mr. Davidson being second with the same variety, fine in bunch, berry, and finish; Mr. Evans being third. Mr. Warden was again well to the front in the "any other white Grape" class, staging large well-coloured bunches of Buckland Sweetwater. Mr. Wilkins was second with Foster's Seedling; and Mr. Allsop, gardener to Lord Portman, Bryanston, Blandford, third with Buckland Sweetwater. Out of eight Melons staged Hero of Lockinge, shown by Mr. Wilkins, was first. Mr. Inglefield had the best six Peaches, showing large specimens of Walburton Admirable; and Mr. McFarlane had the second best, staging fine even fruits of Barrington. Mr. W. Grace, gardener to W. B. Neave, Esq., Forlingbridge, Hants, was first for Nectarines, Mr. McFarlane being second, both showing good fruits of Pineapple. Mr. Budd was first for a very good dish of Apricots; Mr. McFarlane was second; and Mr. Fred Smith, gardener to the Lord Bishop of Salisbury, was a good third. Eight lots were staged. Mr. F. Smith had the best dish of Plums, showing a dozen good fruits of Green Gage; Mr. Wilkins was second with the same variety; and Mr. B. West, gardener to J. B. Wygram, Esq., Northlands, Salisbury, third, showing good examples of Washington. Mr. Wilkins had the best three dishes of dessert Apples, the varieties shown being Beauty of Bath, White Astrachan, and Red Astrachan; Mr. F. Smith was a good second; and Mr. H. Brown, gardener to the Hon. Percy Wyndham, The Clouds, Tisbury, a creditable third. Mr. Smith was first with a like number of dishes of culinary Apples, showing large, clean, even fruits of The Queen, Ecklinville Seedling, and Lord Sutfield; Mr. Wilkins, who was second, staging Chancellor, Stirling Castle, and Warner's King. Mr. Budd was third. In the amateur classes Alderman Lovibond, Mr. A. Maple, Mr. Hinxman, Mr. Robey, and Dr. W. D. Wilkes, The Causal, Salisbury, were the principal prizewinners.

In the class for collections of twelve kinds of vegetables (open classes) three collections were staged by Messrs. Inglefield, Wilkins, and West. Those staged by the two first-mentioned exhibitors bore evidence of high cultural skill, and were set up in beautifully green Parsley to the very best advantage. The prizes were awarded in the order in which the exhibitors' names appear. Mr. Inglefield's collection contained good specimens of No Plus Ultra Runner Beans, Duke of Albany Peas, Intermediate Carrots, Moore's Vegetable Marrows, Satisfaction Potatoes, Onions, Globe Artichokes, Veitch's Autumn Giant Cauliflower, Sutton's Perfection Tomato, Pragnell's Exhibition Beet, Cucumbers, and Celery. In Mr. Wilkins' collection were grand specimens of Onions, large, shapely bulbs, and as hard as a deal board; Autumn Giant Cauliflowers, Celery, Peas, and Runner Beans (a deficiency in the numbers shown of these spoiled the chance of a higher position being accorded to the

collection), and Sutton's Perfection Tomato, the fruits being large, even, and highly coloured.

Mr. Neville and Dr. D. Seaton, Bitterne, Southampton, were first and second in that order for twenty-four Roses, single trusses, distinct. Mr. Browning, gardener to Rev. Sir Talbot Baker, Blandford, and Mr. West were first and second for stands of twelve blooms, distinct. Mr. Browning, Mr. Neville, Mr. West, Mr. Evans, Mr. Goodall, Mr. F. Hatch, Mr. Budd, Mr. Evans, and Mr. Wilkins secured other prizes for cut flowers. Miss Flight was first for a vase for decoration of dinner table with a very elegantly arranged stand. Miss Elsie King won the challenge trophy, value £3 3s., given for a dressed basket for drawing-room decoration, Miss Agnes Flight and Miss E. Burt being second and third with good all-round arrangements. These ladies, together with Mrs. W. F. Trask, were also successful in the buttonhole and shoulder spray classes. Mr. J. R. Chard, Stoke Newington, London, was well ahead in the class for two bouquets—one bridal and one ballroom.

Non-competitive exhibits were numerous. Messrs. Keynes, Williams and Co. covered good lengths of staging in the tents devoted to floral exhibits with stands of new Cactus Dahlias, Carnations, and Gladiolus. Among the new Cacti Dahlias may be mentioned Marchioness of Bath, soft crimson lake, shaded delicate pink towards the edge of the petals, a model Cactus in form; Lady Skelmersdale, chrome yellow, a striking variety; Countess of Radnor, of fine form and beautifully shaded rose cerise; and Countess of Gosford, amber, shaded soft vermilion, one of the most striking varieties yet raised. Messrs. R. Veitch and Son, Exeter, also staged an extensive and varied lot of cut flowers of herbaceous and alpine plants, as well as plants themselves growing in small pots, together with stands of new Carnations. Mr. Pritchard, Christchurch, and Mr. B. Ladhams, Shirley, also made a good show of cut herbaceous flowers. Mr. Davis, Yeovil, contributed stands of double and single Begonias, the flowers being of fine size and form, and of various shades of bright and pleasing colours. Mr. Hamlin, The Palace, Salisbury, obtained a certificate for a small greenhouse set on wheels, so as to be easily shifted from one part of the garden or premises to another, as circumstances may require.

MAIDENHEAD.—AUGUST 11TH.

AN excellent Exhibition was held at Maidenhead this year, all the departments being strongly supported, and the quality throughout highly satisfactory. The neighbourhood is one in which good gardeners abound; in fact, within a radius of a few miles some of the best cultivators in the South of England practise. If there is one point on which they are markedly weak it is in grouping. We commented on this a year or two ago, and there is still no particular improvement to record. It is not very easy to see why this should be the case. There is no doubt abundance of material at command, and if exhibitors do not know how to make the best of it they should not be too proud to take lessons at other shows. In fairness it should be stated that the method of planning the Exhibition tells very much against them. Space is not provided for the groups at the sides of the tent on the ground level, but they have to be packed on the flat stages amongst a heterogeneous mixture of specimen foliage and flowering plants. This is altogether wrong. Grouping is now so important a part of the exhibitor's art that Maidenhead should not rest under the reproach of being behind the times. The fruit was very good indeed, and the vegetables in competition for special prizes were splendid. The Show was held in the grounds of Curtisfield, and was so extensive that the Judges had a prolonged task.

The first prize group 12 feet by 10 was that of Mr. J. Lindsay, gardener to the Dowager Duchess of Buccleuch, and it was full of healthy well grown plants, but was much too flat and uniform. Broadly speaking it was composed of a level bed of Ferns sprinkled with Caladiums and Streptocarpus, and Tuberose, Lilliums, Francoas, Gladioli, Crotons, Dracenas, and other plants rising above them. On what we presume was the second prize group no card was discoverable, but Mr. W. H. Austin was third. Mr. Lockie, gardener to G. Fitzgerald, Esq., was first with a group half the size; Mr. E. Johnson, gardener to A. Gilliat, Esq., being second; Mr. Richardson, gardener to G. Herring, Esq., third; and Mr. Paxton, gardener to the Hon. C. S. Irby, fourth. The truest kindness would be to say as little about these as possible, for they were so packed and hemmed in by other exhibits that all effect was lost.

Foliage plants were not large, but very clean and healthy. This remark applies forcibly to Mr. Lockie's first prize twelve in 8-inch pots, which were full of quality, and perfect for their size. Mr. Fulford, gardener to J. Lambert, Esq., was second. Mr. Lindsay had the best single specimen, a fine *Gymnogramma Alstoni*. Mr. Lindsay won with six stove and greenhouse Ferns, exhibiting good and very healthy plants of *Microlepia hirta cristata*, *Adiantum Lathomi*, *A. farleyense*, *A. cardiochæna* and *Gymnogramma Alstoni*. Mr. Lockie had some large and shapely Fuchsias, and won with six plants, Charming and Emily Lye being the best. Mr. Hopkins, gardener to J. W. Burrows, Esq., was second with large but somewhat loose plants, and Mr. Lindsay third. Excellent table material was staged by Mr. Johnson, who won from Messrs. Lindsay and Fulford. Zonal Pelargoniums were finely shown by Mr. Lindsay, who had large plants full of good trusses. He was first for six with Queen of the Whites, Constance, F. V. Raspail, Lucie Lemoine, Lucy Mason, and Omphale. Most of them were 4 feet across. Mr. Hopkins was second with smaller plants carrying good trusses. Begonias were not quite satisfactory. The flowers were good and the plants large, but the latter were full of stakes. Mr. Deadman,

gardener to T. Higgin, Esq., was first, Mr. Lockie second, and Mr. Goodman, gardener to Miss Hammersley, third. Coleuses as shown by Mr. W. H. Castle, gardener to E. A. Tonge, Esq., were large and well coloured, meriting the first prize they received. Mr. Hopkins won with Cockscombs, and the best single specimen flowering plant came from Mr. Lockie. It was a single Begonia 3½ feet high, and as much through. Mr. Paxton was second. Messrs. Paxton and Lockie were first and second with Gloxinias.

Cut flowers were very attractive. Mr. W. Taylor and Mr. Wicks were to the front with Roses. With Dahlias Messrs. Tranter, J. Walker, Pond, Wheeler, and Mills secured the prizes, Mr. Pond's blooms being magnificent. Zinnias were finely shown by Messrs. Broughton, Tranter, Young, and Davis; Asters by Messrs. Young, Wright, and Pond; Cactus Dahlias by Mr. Diddams; bouquets by Mr. Broughton; buttonholes by Mr. Herrin of Dropmore; floral arrangements by Mrs. Beckett; and baskets by Miss Vardy.

Fruit was both well and extensively shown. Mr. J. Gibson, gardener to Earl Cowley, won with six dishes. He had good Black Hamburgh Grapes, excellent Hale's Early Peaches, and fine Black Tartarian Cherries. Mr. Osman, gardener to L. J. Baker, Esq., was a close second. His Black Hamburgh Grapes were good, but smaller in berry than those of Mr. Gibson, while the Muscats were not coloured. Mr. Goodman was third with Brown Turkey Figs and Dagmar Peaches very good. With four dishes Mr. Marcham, gardener to Miss Arnott, was first, and Mr. Paxton second. There was good competition with open-air fruit, four dishes. Mr. Goodman was first with Early Gage Plums, Moor Park Apricots—very good; Red Joaneting Apples, and Windsor Pears. Mr. Osman was second, his best dish being that of Hale's Early Peach, and Mr. Lindsay third. Black Hamburgh Grapes were excellently shown by Mr. Marcham, being very fine in bunch, berry, colour, and bloom. Mr. Gibson was second and Mr. Osman third. Well coloured clusters of Alicante secured Mr. Goodman the first prize for any other black; Mr. Osman being second with Madresfield Court, not fully coloured; and Mr. C. Mills, Clewer, third, with Alicante. Mr. Johnson had some very good bunches of Muscats, and was placed first, Messrs. Osman and Paxton following. In the "any other white" class Foster's Seedling was exclusively shown. Mr. Osman won with highly creditable clusters, and the other prizes went to Mr. Johnson and Mr. Goodman.

Peaches and Nectarines were good, Mr. Johnson winning in the class for the former with Grosse Mignonne, and Mr. Paxton in that for the latter with Lord Napier. The minor awards went to Messrs. Goodman and the other exhibitors named. Mr. Lockie was first for a Melon, Sutton's Seedling, a neat, beautifully netted, orange-fleshed fruit of delicious flavour representing him. Mr. Johnson was second with The Countess, and Mr. Gibson third with Sutton's Imperial Green Flesh. Mr. Goodman was first for Plums, winning with a very good dish of Jefferson's; Mr. Pond being second with Victoria, and Mr. Hopkins third with Peach. In the class for dessert Apples some excellent fruit of Irish Peach came from Mr. J. Davis, Mr. Goodman being second, and Mr. Castle third. The prizes for culinary varieties went to Messrs. Paxton, Diddams, and Goodman.

The class for twelve Tomatoes brought a number of admirable dishes. Mr. Mackay won with Webb's Regina, a handsome and very heavy fruit; Mr. Allen was second with Perfection, and Mr. Knight third. The Society offered prizes for vegetables, and also several of the leading seedsmen. Mr. Paxton won with kidney Potatoes in the former section, having a splendid dish of Sutton's Seedling; Mr. Hobley was second with Sutton's Satisfaction, and Mr. Lindsay third with Seedling. Messrs. Quelch, Lockie (who showed Satisfaction), and Lindsay won with rounds. The first named won with Cauliflowers, Mr. C. Young with Onions, Mr. Lockie with Cucumbers, Mr. Lindsay with Celery, and Mr. Head with Peas. Messrs. Carter & Co.'s prizes brought some excellent produce. Six kinds were asked for, and excellent Early Defiance Cauliflower, Giant Rocca Onion, Snowdrop Potato, Perfection Tomato, Intermediate Carrot, and Telephone Pea secured the premier award for Mr. Goodman. Mr. Young followed with Solid Ivory Celery, Snowball Turnip, and Telephone Pea, very good; and Mr. Quelch was third. Messrs. Sutton & Sons also offered prizes for six kinds, Mr. Lockie winning with an excellent collection, composed of New Intermediate Carrot, Satisfaction Potato, Reading Perfection Tomato, Early Autumn Mammoth Cauliflower, Sutton's Exhibition Onion, and Perfection Marrowfat Pea. Mr. Johnson was second with Autumn Mammoth Cauliflower and Satisfaction Potato, very good; and Mr. Goodman third. Mr. Lockie also secured the principal of Messrs. Webb's prizes for six kinds, and he again staged excellent produce, consisting of Webb's Defiance Intermediate Carrot, Wordsley Queen Potato, Sensation Tomato, Early Mammoth Cauliflower, Exhibition Onion, and Talisman Pea. Mr. Mackay was second with Stourbridge Glory Potato and Stourbridge Gem Cucumber, excellent; and Mr. Paxton third. Mr. W. Broughton's special prizes were secured by Messrs. Brown, Herbert, and Willis.

Attractive miscellaneous contributions were made to the Show by Messrs. J. Veitch & Sons, Mr. E. F. Such, Mr. J. Walker, Mr. Robert Owen, and Mr. Chas. Turner.

ABERDARE.—AUGUST 11TH.

THE ninth annual fixture of the above Society proved in every respect a thorough success, and can lay indisputable claim to being one of the best shows in the principality. This season, as for several years past, the Show was held in the picturesque park adjoining

Abernant House, which is placed at the disposal of the Committee by James Lewis, Esq., the popular proprietor.

The principal prizetakers in the open plant classes were Mr. Cypher, Cheltenham; Mr. Comley, gardener to J. Lewis, Esq., Abernant; and Mr. J. Speck, Llanelly. In the corresponding classes for fruit, Mr. Hawkins, gardener to Mrs. Turberville, Ewenny Priory; Mr. Comley, Abernant; Mr. Silk, gardener to T. M. Franklin, Esq., St. Hilary; Mr. Stone, gardener to Lord Aberdare; and Mr. Morris, gardener to A. P. Vivian, Esq., Taibach, were successful. Vegetables were well shown, the honours falling to Mr. Pugsley, gardener to General Lee, Dinas-Powis; Mr. Croft, gardener to Mrs. Palmer, Rheola; Mr. Morris, Taibach; and Mr. Cole, Aberdare. The amateur and cottager classes were well and excellently filled, the exhibits being of a high order of merit.

It is hardly necessary to comment upon the quality of plants shown with such names as Cypher among the exhibitors, and the fruit consisted of very fine and well finished examples as a rule. Among honorary exhibits in addition to the local trade, Messrs. W. Clibran and Sons, Altrincham and Manchester, staged a good collection of Roses and popular herbaceous flowers.

A run through the extensive glass department in Abernant Gardens proved that Mr. Comley had not exhausted his stock of show fruit, though he had staged heavily. His house of Madresfield Court, almost intact, was a fine sight, and from his later houses we may expect to see the grower giving a good account of himself at some of the autumn shows. Pine Apples are still well and largely grown there. Capital fruit were put up successfully at this Show, and Mr. Comley might well have sent them further a-field.—VISITOR.

TAUNTON DEANE.—AUGUST 11TH.

THIS flourishing Society held its twenty-ninth annual Exhibition under the most favourable circumstances. The day was a perfect one; there was brilliant sunshine, which was tempered by a cool northerly wind; indeed, some of those who attended the Show stated that the thermometer in the morning went down to freezing point. This combination tended to make the day a most enjoyable one, and brought together a very large concourse of visitors. The whole town was *en fête*, and the streets were crowded by an immense concourse of people. The way in which these horticultural gatherings are looked forward to in the west is a very striking contrast to the lukewarm manner in which such meetings are regarded in our home counties. The neighbouring gentry make a point of being at home, and no other arrangements are allowed to interfere with their being present at this annual fête; while the railway brings thousands of visitors from the neighbouring towns as far as Bristol and Bath on the one side, and Torquay and Exeter on the other. The cottagers, too, from the neighbourhood flock in in great numbers, taking a keen interest in all, especially in the cottagers' productions, which are of great excellence, so that altogether everything conspired to mark the day as a most successful one. The beautiful vale of Taunton has a fertile soil and a most genial and forward climate. When I left my own home yesterday I had not a single spike of *Gladiolus* in bloom, and in fact only one or two which were showing colour, while grand spikes were exhibited at the Show evidencing some fortnight in advance of us. I, however, found that other places in the neighbourhood did not share this earliness, and that it must be specially assigned to this much-favoured vale.

I have now for many years—some thirteen or fourteen—been permitted to assist at this Show, and have during this time noticed many and important changes, not merely in the personnel of the exhibitors, but in the character of the exhibits, perhaps the most conspicuous being in the large plants shown in the big class for stove and greenhouse plants. I can recollect when in the class for twelve stove and greenhouse plants in flower there were large plants shown which ran one another very close, when Messrs. Lawless, Cleave, Pilgrim, and others had but few points between them. Now Mr. James Cypher of Cheltenham is the only exhibitor who shows them, and there is a great fall between the first and second collections. They were well grown and excellently flowered, but they were not half the size of those shown by the celebrated Cheltenham grower. Then again there used to be classes for tricolor, silver, and bronze Nosegays and other Pelargoniums, while now there are but two classes for single and double Zonals. Groups of plants arranged for effect have been added, and Begonias, both double and single, have taken the place of Pelargoniums. There are still some classes which might with advantage be cut out from the schedule, notably Verbenas, Phloxes, Cockscombs, and Petunias, while more encouragement might well be given to herbaceous plants, of which delightful class there are many ardent cultivators in the neighbourhood, and if they were exhibited in greater numbers would doubtless tend to increase in number.

Mr. James Cypher, who carried off as usual the first prize in the class for twelve stove and greenhouse plants, had fine examples grown in his usual style of excellence of *Clerodendron Balfourianum*, *Allamanda nobilis*, *Allamanda Hendersoni*, *Bougainvillea glabra*, *Anthurium Schertzerianum*, *Ixora Pilgrimi*, and others. Mr. Mould was second, and amongst his plants was a fine *Statice Gilberti* and a good *Erica tricolor*. In the class for six stove and greenhouse plants Mr. Cypher was again first with fine plants of *Statice profusa*, *Allamanda nobilis*, *Erica oblata*, *Ixora Williamsi*, and *Phenocoma prolifera*. Mr. Brooks was second with smaller plants. In the class for eight fine-foliaged plants Mr. Cypher was again first with some grand plants, *Croton angustifolius*, like a shower of gold, *Latania borbonica* and *Croton*

Sunset being very bright and good, *Cordyline indivisa*, *Kentia australis*, *Dasylium glaucum*. J. Curnee, Esq., was second, and Mr. Mould third. In the class for exotic Ferns W. Brooks, Esq., was first; he had some fine specimens, amongst which were *Davallia Mooreana*, *Nephrolepis nidus avis*, and *Dicksonia antarctica*. One great improvement has been effected of late years in the arrangement of these fine plants in the centre of the large tent. Instead of being pushed up upon stages, where the pots could be well seen, and the plants but very indifferently, they are all placed on the ground, so that they are seen to the fullest advantage. Round the sides are placed on the one side Begonias, Pelargoniums, and other plants in pots, while the other is devoted to cut flowers, of which there is always a good display. The Begonias shown by Mr. W. H. Fowler were finely grown, and were of course fine varieties. He had Mrs. J. G. Goschen, Tower of Gold, Florence, R. D. Parsons, Mrs. French, and Spitfire, very brilliant in colour. These plants were admirable in growth, not overtrained, and clear and bright in colour. Mr. Goddin was second. The Pelargoniums do not need much notice; they were, as usual here, excellently flowered, but to my mind overtrained, the stakes being much too prominent. There was also a considerable falling off in the Fuchsias, which used at one time to be shown in great excellence.

It was hardly to be expected at this season that there would be a great competition in Roses, indeed it was confined in the classes for thirty-six and eighteen distinct varieties to Messrs. Perkins of Coventry and Mr. S. P. Budd of Bath, but both exhibitors showed remarkably well, and ran each other very close. Mr. Perkins' stand for thirty-six consisted of Charles Lefebvre, Comtesse de Camando, Etienne Levet, Martin Cahazel, bright rose shaded with crimson; Emilie Hausburg, Mr. W. H. Eaton, a seedling of Messrs. Perkins, light rose, shaded with crimson; Her Majesty, Mrs. C. Wood, Dr. Andry, Alfred Colomb, Heinrich Schultheis, Duke of Connaught, Elie Morel, Ferdinand de Lesseps, A. K. Williams, Marie Verdier, Perle des Jardins, Duc de Rohan, Comte Raimbaud, Earl of Dufferin, Devienne Lamy, Mrs. John Laing, and Duke of Wellington. Mr. Budd's stand ran this very close, the flowers being very fresh and of good colour, but a little wanting in size. In the class for eighteen the same competitors occupied the same position, Mr. Perkins' stand containing Emilie Hausburg, Captain Christy, Marie Baumann, Alfred Colomb, Her Majesty, Heinrich Schultheis, and Innocente Pirola. In the class for eighteen Teas and Noisettes Mr. W. H. Fowler exhibited a very beautiful stand, in which were some grand flowers. *Souvenir d'un Ami* was one of the finest blooms of this variety I have seen this year; especially fine, too, were *Souvenir d'Elise Vardon*, a large and well developed flower; Comtesse de Nadaillac, a superb bloom of great substance, and beautiful in colour; Jean Ducher; Marie Van Houtte; Ernest Metz, very fine both in form and colour; Madame Hoste, excellent.

Owing to the lateness of the season, as I have already said, *Gladioli* were not largely represented. Even Mr. Kelway, who usually has a grand bank of them, had only a couple of rows. It is needless to say that these were very fine, and several of them received first-class certificates. In the class for twenty-four spikes, not less than twelve varieties, Mr. W. H. Fowler had a magnificent stand, comprising Mrs. Fowler, the grand seedling of Mr. Kelway's of which I wrote last year, and which I consider the best that he has ever raised, fine in form and novel in colour; *Enchanteresse*, a magnificent spike of this charming pure white French variety; *Formosa*, very pretty; Dr. Balby, brilliant red; *Flamboyant*, fiery crimson; *Juliette*, very pretty; *Conquerant*, *Protée*, *Leandre*, *Horace Vernet*, *Adolphe Brognart*, *Schiller*, &c. This stand was peculiarly interesting to me, as our celebrated Somersetshire grower has always contested my assertion that it was a good plan to cut the bulbs in halves before planting, saying it would never answer, and yet every one of these spikes was from cut bulbs; and as these were of such good quality it cannot be urged that the practice is a bad one. Mr. Davis of Yeovil had a very fine stand of double Begonia blooms, but as a rule the other cut blooms did not present many features of interest, if we except the classes for Carnations, in which there was a very sharp contest, both in the open and amateurs' classes, between Mrs. McAlister and Mr. W. H. Fowler, the latter winning in the class for twelve blooms; Mr. Fowler was first and Mrs. McAlister second. Among the flowers exhibited were Charles I., Germania, J. B. Bryant, Mrs. Sharp, Mrs. McLaren, Countess of Jersey, Victory, Alice, Thérèse, Terra Cotta, Mrs. Barlow, Grostee, Prince of Orange, and The Governor. When I remember what used to be shown in these classes here I am quite astonished at the improvement; true, the victors are both new exhibitors, and have evidently thrown themselves with real ardour into the cultivation of these beautiful and now popular flowers.

The second tent, which was entirely devoted to amateurs, was in most respects a repetition of the first, the trade element being eliminated; the centre was occupied in the same way with large stove and greenhouse plants. Foliage plants and Ferns were very much the same as those exhibited in the open class, but of course not so large. The end of the stage on entering was occupied by a group of plants and cut flowers from Messrs. Robert Veitch & Son, the principal point of attraction to the visitors being the boxes of fine blooms of Carnations and Picotees. Amongst them, besides those already noted above, were *Romulus*, Charles Henry, Marie Douglas, Stadtrath Bail, the fine new yellow flaked Carnation from Benary of Erfurt, King of Scarlets, &c. Besides these they had some fine *Gloxinias*, a few Orchids, amongst which was a good plant of *Disa grandiflora*: these were not for competition. In the Roses in this tent, confined to amateurs, Mr. S. P. Budd, or as we rosarians rather prefer to call him, Dr. Budd, exhibited two beautiful

stands of twenty-four and twelve distinct varieties, in which were some excellent flowers, while in the class for twelve Teas and Noisettes Mr. W. H. Fowler carried off the first prize with a stand which might well have been shown in the height of the Rose season with a good prospect of carrying off honours. Among the flowers were magnificent blooms of Comtesse de Nadaillae, Souvenir d'un Ami, Souvenir d'Elise Vardon, grand; Jean Ducher, Marie Van Houtte, &c. It was a great treat to see such a stand at this season of the year, and confirmed my opinion that Mr. Fowler will be a very formidable competitor to most of our most foremost growers of Tea Roses. He had also another fine stand of twelve Gladioli, amongst which was Madame Aubro, a new French variety to which a first class certificate was awarded.

Nothing is more remarkable to one who has attended these Shows for many years than the vast improvement which has taken place in table decorations. I remember when Miss Cypher used to arrange one of her exquisite tables here, which only served to bring out the very poor and tasteless character of the others; but now she has retired. Her teaching has had its effect, and some very beautiful arrangements were exhibited. There is nothing in which so much difference of opinion exists, and especially amongst ladies, as to the merits of exhibits in this class. My own opinion still is, that that of Mrs. McAllister, to which the second prize was awarded, ought to have taken a higher place. It was mainly composed of Iceland Poppies, and was exceedingly light and graceful.

I have only in this report drawn attention to some of the exhibits, for it would be not very profitable, I think, to go more into detail, although there were a large number of both plants and cut flowers which were very beautiful and examples of good cultivation; but enough has been done, I hope, to show that this fine Exhibition still maintains its high position, and is a centre of good influence on horticulture and its kindred sciences to the West of England. I need hardly add that all the arrangements were well carried out, and that the officials, especially the Hon. Secretaries, Messrs. Maynard and Hammett, did all that lay in their power to make it pleasant for exhibitors, judges, and visitors.—*D., Deal.*

TAUNTON FRUIT CLASSES.

It was generally considered the best show of fruit and vegetables that has ever been seen at Taunton. In addition to all the classes being exceptionally well filled it was also observable that very little inferior produce was staged. There were six entries for a collection of ten dishes of fruit, five being brought. Mr. W. Iggulden, gardener to the Earl of Cork, Marston House, Frome, succeeded in winning the first prize, and also a silver medal offered for the most meritorious exhibit in the fruit classes. His best dishes were very well finished Madresfield Court Grape, Golden Gem Melon, Sea Eagle Peaches, and Oullins Golden Plum. Mr. J. Lloyd, gardener to Vincent Stuckey, Esq., Langport, was a very close second, having very good Muscat of Alexandria and Black Hamburgh Grapes, a grand seedling Melon, fine Bellegarde Peaches, and other good dishes. The third prize went to Mr. Crossman, gardener to J. Brutton, Esq., Yeovil, the front dishes in this case being remarkably good, but the Grapes were poor. Seven staged collections of four varieties of fruit, but the prizes went to the same exhibitors and in the same order as in the larger class.

Ten competed with Black Hamburgh Grapes, the first prize going to Mr. F. Crossman, gardener to Earl Poulet, who had large bunches, the berries also being large, but not particularly well finished. Mr. Iggulden followed with smaller but much better finished bunches. There was good competition in the any other black class, Mr. C. Warden, Clarendon Park Gardens, Salisbury, being first with very good Madresfield Court, Mr. Iggulden following with neat, well finished bunches of the same variety. The best Muscat of Alexandria, the bunches being heavy and fairly well ripened, were shown by Mr. W. Conolly, gardener to J. R. C. Talbot, Esq., Lyme Regis, Mr. Iggulden again being second with small well coloured bunches. In the any other white classes all the prizes went to Buckland Sweetwater, Mr. Warden being well first with grand clusters; and Mr. Webber, gardener to G. F. Luttrell, Esq., Dunster Castle, a good second.

Melons were numerous shown, but the majority cut badly. Mr. Lloyd was first for Davenham at its best, and Mr. F. Crossman second. Peaches were shown remarkably well, Mr. J. Crossman being first with a perfect dish of Dymond, and Mr. Lloyd second with good Bellegarde. Nectarines again were numerous and good, and with these Mr. J. Crossman gained the first prize, staging extra good fruit of Pine Apple, Mr. Daffurn, Weston-super-Mare, being second with Elruge in good condition. Mr. Webber was first and Mr. Huxtable second with Apricots, and the principal winners in the other fruit classes were Messrs. Crossman, Iggulden, Sanford, Tottle, Tucker, Perkins, and G. Garraway.

VEGETABLES filled one large tent and half of another, cottagers contributing extensively. Coarseness rather prevails, and the tendency seems too much towards great size, especially in the Potato classes. The principal prizewinners in the open classes were Messrs. Garraway, J. Crossman, Webber, W. Greedy (gardener to Major Borton), H. Moore, W. M. Bryant, H. F. Manley, G. Ricks, W. A. Sanford, A. Tucker (gardener to Major Wise), and F. J. C. Parsons.

ST. ALBANS.—AUGUST 11TH.

WITHOUT doubt this was the best Show in the history of the Society. The weather was fortunately fine—a new feature in St. Albans Shows. Throughout the Exhibition the quality of most things staged was of the best, and in some classes the competition was very keen.

For stove and greenhouse plants Mr. Nutting, gardener to B. Maple, Esq., M.P., secured the first prize with some beautiful specimens, followed closely by Mr. Fergusson, gardener to Mr. MacIlwraith. Mr. Nutting was again first for flowering or foliage plants, with Mr. Seonce, gardener to J. S. Hill, Esq., Hawkswick, second. This exhibitor was awarded first prize for six exotic Ferns. Some beautiful plants were shown, a fine *Adiantum farleyense* standing out well from the others.

For a group of plants arranged for effect Mr. Nutting again won the first prize with a very light and graceful group, and Mr. Seonce was a good second. A new feature was the offer of a prize for the best arranged group of variegated ornamental foliage plants to cover a space of 12 feet by 6 feet. This was secured by Mr. E. Beckett, gardener to H. H. Gibbs, Esq., Aldenham House, with a very finely coloured collection. Roses did not bring many competitors, but the specimens staged were good considering the time of the year. Mr. Beckett was first for twenty-four H.P.'s, and Mr. Wilsher, gardener to W. H. Bingham-Cox, Esq., of Tolmers Minns, was second. These gentlemen took the same position for six Teas. Mr. F. W. Bush, an amateur of St. Alban's, was first for twelve H.P. Roses. Cut stove and greenhouse flowers were a fine exhibit, and the Judges had some difficulty in awarding the prizes, which were given to Messrs. Beckett and T. Nutting respectively. An offer for a prize for an unlimited number of herbaceous flowers brought one of the prettiest exhibits of the Show, Mr. Beckett being first with a collection of fifty varieties. For twelve kinds of herbaceous flowers Messrs. F. J. Smith & Son, nurserymen, St. Albans, gained the first prize.

Fruit made a fine show. For white and black Grapes Mr. Beckett was awarded first prize with some fine coloured Muscat of Alexandria and Gros Maroc, Mr. Nutting taking second in each class. Peaches, Nectarines, Melons, Cherries, and Apples were also well shown.

Vegetables made a large display, and the competition was very keen indeed. The first prize offered by Messrs. Sutton & Sons fell to Mr. Beckett, and the second to Mr. G. Dormer, gardener to Mr. Rowland, Elstree. Mr. Beckett seemed invincible, for the first prize offered by Messrs. J. Carter & Co. was also adjudged to him. The table decorations were very pretty and good, the arrangement being on tables 7 feet by 4 feet 6 inches.

The honorary exhibitors were numerous. Mr. Gibbs, Aldenham House, contributed four fine Palms for the centre of the large tent. Mr. Paul of the Old Nurseries, Cheshunt, and Messrs. Paul & Son of Waltham Cross both contributed a good number of cut Roses and bunches of herbaceous flowers. Mr. Cutbush had a pleasing group of miscellaneous plants near the entrance, and Mr. Spriggings of St. Albans had staged a small group opposite to the entrance. Mr. Sander of St. Albans sent a number of Orchids, and it is almost superfluous to add that they were good. Cottagers' classes were well filled, and generally their staging showed a decided improvement.

THE NATIONAL CARNATION AND PICOTEE SOCIETY, NORTHERN DIVISION.

THE annual Exhibition of the Northern Section took place at the Royal Botanic Gardens, Manchester, on Saturday, the 13th inst., and there was a good number of growers and flowers. The Picotees were fine generally, many of the flowers especially so; and the Carnations also were of good quality.

In the class for twelve Carnations, dissimilar, Mr. Tom Lord, Todmorden, was first with an excellent stand, having Master Fred, Mercury, James Douglas, Seedling C.B., Bruce Findlay, very fine; William Skirving, Sybil, Admiral Curzon, very fine (also the premier bloom); J. D. Hextall, Master Stanley, Seedling R.F., fine; Dan Godfrey, and Robert Houlgrave. Second, Mr. R. Sydenham, Birmingham, with Master Fred, Gordon Lewis, and Sarah Payne, very fine; Sportsman, Alisemond, Edward Adams, Thalia, Joseph Lakin, William Skirving, Lovely Mary, George Melville, and Admiral Curzon. Third, Mr. A. R. Brown, Birmingham, with Edward Adams, Fanny Hudson, R. Thomson, J. D. Hextall, Squire Whitham, Sportsman, C. H. Herbert, Alisemond, Robert Houlgrave, Sarah Payne, Biddy Malone, and Richard Bealey. Fourth, Mr. J. Whitham, Hebden Bridge. Fifth, Messrs. Thomson and Co., Birmingham. Sixth, Mr. H. Geggie, Bury, Lancashire. In the class for six Carnations, dissimilar, first, Mr. Crossly Head, Hebden Bridge, with J. D. Hextall, very fine; Sybil, Dan Godfrey, Mayor of Nottingham, Master Fred, and Robert Houlgrave. Second, Mr. C. F. Thurstan, Wolverhampton, with James Merryweather, very fine; Ivanhoe, Crista Galli, William Skirving, Sir Garnet Wolseley, and Robert Houlgrave. Third, Mr. J. Bleackley, Whitefield; fourth, Mr. J. Edwards, Manchester; fifth, Mr. S. Barlow; sixth, Mr. C. Thorniley, Middleton; seventh, Mr. W. Bacon, Derby; eighth, Mr. W. Taylor, Middleton.

For twelve Picotees, dissimilar, there was a strong and close competition. First, Messrs. Thomson & Co., Birmingham, with a superb stand of flowers, comprising grand blooms of Little Phil, Henry (unusually fine), Nellie, Campanini, Thomas William (very fine indeed), Mrs. A. Chancellor (very fine and bright in colour), Dr. Huxley (medium rose edged, of spotless purity), Mrs. Sharp, John Smith, Constance Heron, Elizabeth, and Brunette. Second, Mr. R. Sydenham with Dr. Epes (very clean ground and bright), Little Phil, Favourite (very fine), Lakin's Ne Plus Ultra (an extra bright heavy red edged), Amy Robsart, Ann Lord, Norman Carr, Zerlina, Mrs. Gorton, Mrs. Sharp (very fine), Mary, and Lady Holmesdale. Third, Mr. T. Lord with Little Phil, Ann Lord (very pure and fine), Brunette, Norman Carr,

Henry, Miss Lord, Alice, Miss Wood, Campanini, Clara Penson, Isabella Lakin, and Muriel. Fourth, Mr. A. R. Brown, a very fine John Smith and Little Phil being in his stand. Fifth, Mr. A. W. Jones, Birmingham, John Smith, Mrs. Payne, and Lady Louisa, all fine; and sixth, Mr. H. Geggie. For six Picotees, dissimilar.—First, Mr. Thurstan with Zerlina (very pure in colour and exceedingly fine, also the premier Picotee), Edith D'Ombra, Thomas William, Mrs. Rudd, Morning Star, and Nymph. Second, Mr. J. Edwards with J. B. Bryant, Little Phil, Daisy, Clara Penson, Mrs. Edwards, and Jessie. Third, Mr. J. Bleackley. Fourth, Mr. W. Bacon. Fifth, Mr. C. Head. Sixth, Mr. C. Thorniley. Seventh, Mr. W. Bacon. Eighth, Mr. W. Taylor.

For twelve selfs, not more than two flowers of a variety, first Messrs. Thomson & Co., Birmingham, with a very fine lot of blooms, comprising a seedling, rosy purple, very fine; Germania, very fine; Gilbert, a very fine bright rosy carmine; Blushing Bride, a fine bloom; Ariadne, bright shaded carmine rose, and very fine; Negress, very dark, rich colour; Gladys, seedling, rich shaded purple; Mrs. J. Chamberlain, a lovely salmon colour; Mrs. Fred, a very fine bloom; and Aurora (two blooms), a rich deep crimson self. Second, Mr. A. R. Brown with Purple Emperor, Mrs. Fred, Germania, King of Purples, Mrs. Muir, Ruby, Matador, Scarlet Queen, and others. Third, Mr. J. Edwards. For six selfs, not more than two flowers of any one variety, first Mr. A. W. Jones with Germania, very fine; Gladys (two blooms), very fine and bright; Emma Lakin (two blooms); Mrs. McLaren, fine. Second, Mr. W. Kenyon with Purple Emperor, fine; Mrs. Reynolds Hole (two blooms), Pride of Peshurst, Gladys, and Seedling. Third, Mr. W. Bacon with Germania, Mrs. Fred, and Seedlings. Fourth, Mr. J. Bleackley.

Twelve Fancy varieties, not more than two of any one variety.—First, Messrs. Thomson & Co., Birmingham, with grand flowers—viz., A. W. Jones (two blooms), Countess of Jersey, Dodwell's S. 152, Terra Cotta, Victory, Schleiben, Mrs. R. Sydenham, a great acquisition, a decided improvement on Countess of Jersey; Mornson, new; Dodwell's Seedling 166, Madame Van Houtte, and Benary's F.H. Haage, very distinct and fine. Second, Mr. A. R. Brown with Lord Rendlesham, very fine; two blooms of Mrs. Robert Sydenham, very fine; Victory, Maud, Sparkler, Brockhaus, Schleiben, Duke of Albany, A. W. Jones, and Terra Cotta. Third, Mr. B. Simonite, Sheffield, and in this stand were two new flowers, Mrs. Barlow, fine petal, but dull in colour; and Duchess of Portland, bright canary flaked with lake and orange. Six Fancy varieties, not more than two blooms of a variety.—First, Mr. R. Sydenham with Janira, Lord Rendlesham, Victory, and Schleiben. Second, Mr. A. W. Jones with Alfred Grey, A. W. Jones, Stadtrath Bail (two blooms), Janira, and Mrs. R. Sydenham.

Single blooms.—Scarlet Bizarre.—First and second Mr. T. Lord, with Robert Houlgrave and Master Stanley, and Admiral Curzon third and fourth. Fifth, Mr. A. R. Brown with George. Crimson Bizarre.—Mr. T. Lord first and second with Master Fred; third and fifth, Mr. Sydenham, with same; Mr. J. Whitham, fourth, with J. D. Hextall. Pink and Purple Bizarre.—Mr. Lord was first and third with seedling Bruce Findlay, and fourth with William Skirving. Mr. Sydenham second and fifth with Sarah Payne. Scarlet Flake.—Mr. Brown first, second, third, and fourth with Sportsman. Mr. T. Lord fifth with Tom Lord. Rose Flake.—Mr. Simonite first and second with seedling J. P. Sharp, a very fine new variety. Mr. Lord third with Sybil, Mr. R. Sydenham fourth with Thalia, Mr. J. Bleackley fifth with Thalia. Purple Flake.—Mr. A. R. Brown first with Squire Whitbourn, Mr. Bleackley second and fourth with Dr. Foster, Mr. Sydenham third with Gordon Lewis, Messrs. Thomson & Co. fifth with the same.

PICOTEES.—Heavy Red-edge.—Mr. Brown first with John Smith and second with Mary Austiss. Third, Messrs. Thomson & Co. with Dr. Epps. Fourth, Mr. Jones, and fifth, Mr. Sydenham with John Smith. Light Red-edge.—Mr. Brown first with Thomas William. Second, third, fourth, and fifth, Mr. Jones with the same. Heavy Purple-edge.—First, Mr. Thurstan with Zerlina. Second, Mr. Sydenham with Muriel. Third and fourth, Mr. Jones with Calypso and Muriel. Fifth, Mr. Brown with Muriel. Light Purple-edge.—First, Mr. Jones with Clara Penson. Second, Mr. Brown with Sylvia. Third, Mr. Sydenham with Ann Lord. Fourth, Mr. Brown with Elizabeth. Fifth, Mr. Bleackley with Mary. Heavy Rose and Scarlet-edge.—First, Mr. Jones. Second, Mr. Brown with Campanini. Third, Mr. Brown with Little Phil. Fourth, Messrs. Thomson & Co. with Campanini. Fifth, Mr. Geggie with Seedling. Light Rose and Scarlet-edge.—First, third, and fourth, Messrs. Thomson and Co. with Nellie. Second, Mr. Bleackley with Thalia. Fifth, Mr. Jones with Mrs. Payne.

Premier blooms, Bizarre or Flake Carnation.—Mr. T. Lord with Admiral Curzon. Picotee.—Mr. Thurstan with Zerlina.

Certificates were awarded to Mr. B. Simonite for a very fine Rose-flake Carnation named J. P. Sharp, and to Mr. T. Lord for a fine P.P.B. Carnation named Bruce Findlay.

CLARENDON PARK, LEICESTER.

THIS was the first of what it is intended shall be an annual summer Flower Show and Fête, promoted by the horticultural section of the Clarendon Park and Knighton Mutual Improvement and Recreative Society. It was held in the grounds of Stoneygate House, kindly lent for the purpose by R. Toller, Esq., and which—being of considerable extent, containing an abundance of excellent timber, and fine old gardens well stocked and in excellent keeping—was specially well adapted for such a purpose. The weather proved most favourable, and we are pleased to record that, both in the extent and quality of the exhibits and in the

number of visitors to the Show, the Committee achieved a most gratifying success.

Three tents were filled with exhibits, one being almost entirely devoted to those sent in not for competition, and which formed the best and most attractive features of the Show. Down the centre of this tent were five very attractive groups of foliage and flowering plants, all not for competition. A most charming and tastefully arranged group—the best in this respect we have ever seen at any show in Leicester—was that set up by Mr. G. R. Lawson, gardener to Mrs. G. H. Ellis, Knighton, Hayes. The same exhibitor also had six grand specimens of exotic Ferns, not for competition. They were *Adiantum fragrantissimum*, *Adiantum grandiceps*; a seedling *Adiantum*, apparently intermediate between *A. decorum* and *A. tenerum*, a grand specimen; *Davallia Mooreana*, *Nephrolepis davallioides furcans*, and *Pteris serrulata cristata*. These were all very large specimens, perfect in colour, freshness, and symmetry, reflecting the highest credit upon the exhibitor. A fine group was exhibited by Mr. J. Smith, gardener to S. Bennet, Esq., which deservedly received much admiration, but it differed greatly in style and arrangement from that above mentioned. Mr. Lawson is to be congratulated in having given to Leicester gardeners a useful object lesson in grouping, which was much needed; the banking closely together of a far too large amount of material for the space occupied, so that each plant loses its individuality, seeming hitherto to have been inseparable from Leicester groups. An attractive group, containing some very fine *Crinum*s, was shown by Mr. W. Dodd, gardener to Simpson Gee, Esq.

Mr. James Wright, nurseryman and seedsman, Granby Street and Thurmaston, exhibited six very fine plants of Zonal *Pelargoniums*, double and single, not for competition, also cut flowers of Dahlias, Show, Pompon, and Cactus, and Tuberous Begonias. In another tent Mr. T. Scott, florist, Knighton, had a charming group of plants, mostly of a size adapted to market work, remarkably fresh, clean, and bright; and in the same tent was a bright and attractive group of Orchids, containing good specimens, well flowered, of *Cattleya Gaskelliana*, *Dendrobium Deari*, *Epidendrum vitellinum majus*, and others lent by J. G. Ward, Esq.

The exhibits of vegetables and cut flowers were very numerous and good in all the classes, the cottagers especially showing numerous and well. The indefatigable Hon. Sec., Mr. W. Bell, was a successful exhibitor in many of the classes devoted to amateurs, his exhibits of specimen foliage and flowering plants and Ferns being especially commendable.

In addition to the Flower Show numerous other attractions were provided in a cricket match between gardeners and coachmen, the former proving the victors by over forty runs, a long programme of sports, an excellent brass band, and a glee party. In the evening the grounds were very prettily illuminated with Chinese lanterns, dancing being carried on in the tents.



HARDY FRUIT GARDEN.

Seasonable Pruning.—If rightly managed previously only the needful stopping of shoots of Apples and Pears that have been or are being produced, claims attention. These shoots, termed laterals, are produced at various intervals during the present and succeeding month, the greater number extending in the strongest parts of the trees. They start as a rule from the uppermost buds of the shortened summer shoots, and when once fairly started into growth make rapid progress. To allow them to remain is to rob the buds below of their promising fruitful character by attracting the sap away. This will be disastrous to the production of fruitful spurs, and may be avoided by pinching or cutting the new growths back to the first leaf, thus concentrating the sap in the parts where most wanted to develop firm prominent fruit buds. If these laterals again break into growth and produce sub-laterals the latter must be pinched back in the same way to one leaf. No doubt many shoots which were too weak, short, or undeveloped in character at the summer pruning will now be found possessing the right characteristics, and therefore may be pruned to three or four full-sized leaves in the ordinary way. Gross sappy shoots starting from latent buds in the old wood are invariably useless and need not be retained.

Thinning out is another form of pruning applicable to unrestricted trees and bushes. If not already practised to relieve trees of crowded branches, no time must be lost in doing so. Such relief will admit the necessary light and air among the others for the ripening of the wood. Currants, Gooseberries, standard Apples, Pears, Plums, and Cherries will all be benefited by the operation if necessary to perform it.

Peaches, Nectarines, and Apricots.—Much attention is now necessary to trees that are bearing crops of fruit. Proper support must be given to fruits that appear to require it by securing the bearing shoot in a safe position. Also see that nothing prevents free swelling and ripening. Large leaves may require fastening aside to admit light and expose the fruits to the sun. Gather the ripe

fruit only when dry. Keep the roots of the trees moist, or the crops will not finish well. Copious supplies of water will be needed in dry weather, loosening the soil to ensure easy admission of the fluid to the roots as far as they extend, but be careful not to injure fibres near the surface. Liquid manure will be beneficial to heavily cropped trees. Insects, such as earwigs and woodlice, are troublesome now. Hollow beanstalks 6 or 8 inches long, or brown paper folded in lengths several times and placed between the wall and the branches, form good traps for the earwigs, from which they are easily dislodged into an empty bottle or a vessel of hot water. It is now necessary to remove finally all the superfluous shoots, and fasten in close to the wall the leading and other growths intended to be reserved, in order to quickly ripen the wood. The upper and strongest shoots need attention first. The lower shoots and those not very vigorous may remain to the last. The latter will be induced to grow by remaining free a short time longer. As soon as the fruit has been gathered a raid must be made on red spider, which soon attacks the foliage when it is subject to heavy demands, as it is during fruit ripening and in very dry weather. Heavy syringings with soapy water, 2 ozs. of soft soap to the gallon of water, or any of the numerous insecticides, will, if directed well to the under surfaces of the leaves, soon destroy the pest. It may be kept in check afterwards by the frequent use of clean water, with occasional doses of soapy water. Retaining the foliage healthy to the last is an important detail in successful culture.

Gathering Early Apples and Pears.—The early varieties of Apples such as Joaneting, Devonshire Quarrenden, Mr. Gladstone, and Red Astrachan, together with Williams' Bon Chrétien, Jargonelle, Citron des Carmes, and other early Pears, will be ready to gather during this month when grown under favourable conditions in suitable situations. Select a period when the fruit is dry and cool, and as near maturity as possible, without running the risk of letting it hang too long. The best test for gathering ripe fruit is the easy detachment of the fruits from the spurs. If not wanted for immediate use, lay each fruit separately and carefully in a cool dry place.

Protecting Fruit.—Birds are generally the first intruders upon ripening fruits. Where they are known to be troublesome the trees should be netted over at an early stage to prevent injury. Wasps may be caught by hanging bottles of sweetened beer in the trees. Late Gooseberries and Currants, also Morello Cherries on wall-trained trees intended to be kept as long as possible, should be protected from wet as well as birds and insects.

Raspberries.—As soon as all the fruit has been gathered cut away the bearing canes in order to admit light and air to the present season's growth to admit of its becoming well ripened. Remove also all the weak growths and short useless suckers, which choke the better growths and impoverish the ground, besides being very untidy and forming harbours for insects.

Strawberries.—Continue planting young rooted runners at suitable opportunities. Plenty of strong plants with abundance of fibrous roots can now be found in the spaces between the plants, especially where wide planting is practised. Those rooted among a crowded mass of runners and shaded by rank leafage are of little use, and should not be employed. Sturdy plants always prove the most satisfactory. Make a reserve bed of young plants, placing them 6 inches apart. These will prove useful in the spring for filling up vacancies or for forming new beds. All the young plants wanted having been secured, lose no further time in clearing the beds completely of runners and weeds. Recently planted beds will also need a little attention in cutting away the small runners that extend from them. See that none of the young plants suffer from want of water. Once fairly started they will grow with rapidity until October and develop bold crowns.

FRUIT FORCING.

Peaches and Nectarines.—*Earliest Forced Trees.*—The trees being exposed to the full influences of the air by the removal of the roof lights will be greatly benefited through the foliage being cleansed by rain and invigorated by night dews. This will aid in swelling the buds without inducing over-development, and if the soil of the borders is thoroughly moistened by rain or watering the buds are not likely to be cast at a later period. A vital point in the continued early forcing of Peaches and Nectarines is to prevent the trees starting into growth prematurely. This can only be prevented by keeping them cool, along with some outlets for the sap in moderate lateral growths, and the preservation of the foliage in health. When the roof lights are fixed the trees should have all the air possible, and they must not suffer by want of water at the roots or the buds will become defective and fall when the sap ascends.

Succession Houses.—When the fruit is gathered cut out all the bearing wood of this season unless forming extensions, and the shoots for next year's fruiting where too crowded should be thinned to admit light and air to assist the ripening of the wood. Afterwards cleanse the foliage thoroughly with water from the syringe or garden engine. The roof lights should be removed as soon as the wood is ripe and the buds are plump, unless the trees are young and there is any doubt about the ripeness of the wood, when a temperature of 80° or 85° should be maintained from sun heat, and the ventilators thrown open at night. Supply water to the roots so as to keep the soil in a moist condition. Weakly trees will be benefited by the application of liquid manure.

Late Houses.—Let the fruit have full exposure to the sun, drawing leaves aside, shortening them if necessary, and raising depending

fruit with its apex to the light by laths placed crosswise of the trellis. Keep the growths tied as they advance in length. Stop or remove gross growths, and let all have full exposure to light. Laterals should be kept well in hand, but they may be allowed moderate extension in the case of trees carrying heavy crops so as to attract the sap to the fruit, and maintain activity at the roots. Trees carrying light crops and having strong wood and much lateral growth should be marked for lifting or cutting the roots as soon as the wood is sufficiently firm. This should be done a month to six weeks in advance of the leaves falling. Continue the syringing on fine days in the morning and afternoon until the fruit commences ripening, but on dull days damp the house instead of syringing the trees. Provide a little ventilation constantly, and increase it early in the day.

Ripening the Fruit.—If it is desired to facilitate the ripening of the fruit the temperature through the day may be kept at 80° to 85°, closing in the afternoon early enough to raise the heat to 90° or 95°, and before nightfall admit a little air at the top of the house, so as to permit of any excess of moisture escaping, and to induce a cooling of the atmosphere and rest. The increased temperature must be accompanied by a correspondingly moist atmosphere. In other circumstances allow no opportunity of free ventilation to be neglected; but in case of high winds it is well to moderate the ventilation, admitting air on the opposite side to that from which the wind blows, and closing must be attended to, so as to prevent an unusually low temperature at night. See that the borders inside and outside have sufficient water, never allowing the soil to become so dry as to cause the foliage to become limp, as that may check the fruit in swelling, and cause premature ripening, thin flesh, and poor in flavour. A light mulching of short lumpy manure will tend to keep the soil moist, attract the roots to the surface, and the water will carry the manurial elements down to the roots. Liquid manure should be supplied to weakly trees and those carrying heavy crops.

Cucumbers.—Old plants which have been bearing from an early part of the season produce about this time, or soon after, knobby ended fruits. These are poor for use, and still less attractive in appearance, but they are essential for seed, as the long and straight handsome fruit are less prolific, even when the flowers are fertilised. Seed bearing, however, is fatal to the production in quantity of useful fruit. Old plants may be kept in a bearing condition by cutting out the old growths and encouraging young, so as to insure a succession of bearing wood. Train this thinly, removing old leaves to afford room for new growths, and stopping at one joint beyond the fruit. The surface soil should be removed, and fresh lumpy loam supplied. Plants that have been in bearing in frames some time will be restored to vigour by a free thinning out of the old shoots and the addition of a little fresh loam, giving a moderate watering and a sprinkling over the foliage on bright afternoons, closing at about 3 P.M. With linings to the beds, and the protection of mats over the lights, Cucumbers will be produced for a lengthened period.

Autumn-fruiting Plants.—These should be encouraged to make a strong growth by earthing betimes, applying enough soil each time to cover the protruding roots, and taking care to have the soil moist and warm. Supply water to the roots only when wanted, and give a thorough supply each time. Syringe at 3 P.M., damping in the morning, at noon, and in the evening in bright weather. Maintain a night temperature of 65° to 70°, 70° to 75° by day artificially, 80° to 90° from sun heat, and close between 80° and 85°, and so as to increase to 90°, 95°, or even 100°. Train the growths rather thinly, allowing about 12 inches between the side growths, and stop them at about a foot's growth to give the needful fruiting and furnishing growths. Remove all fruits and male flowers as they show, so as to induce strong growth to show for cutting at the end of that month, then by cropping lightly at first a good supply of fruit can be had later on, when it is most wanted. Avoid over-luxuriance by rich surface dressings and the too free use of liquid manure, but secure plenty of roots by sweet compost and a sturdy, thoroughly solidified growth, by judicious ventilation and full exposure of the foliage to the light.

Houses for Winter Fruit.—The structure must be light and efficiently heated both at the top and bottom, and means of ventilation be provided so that air can be admitted when necessary without creating a prejudicial current. The plants will have been raised from seed, say about the 10th of this month, if not the sowing of the seed must not be further delayed. Pot the plants as soon as ready, shift them as they require more root space, keep them near the glass, and place a small stick to each for its support, growing the plants without stopping, but rubbing off side shoots as they appear to the height of the trellis. In the meanwhile the house should be thoroughly cleansed and repaired, or painting completed. Remove all the old soil, and making everything as sweet as possible so that the plants may have a chance, winter Cucumber growing being much easier to write about than to practise successfully.

PLANT HOUSES.

Chrysanthemums.—Some care is needed in the selection of flower buds on those plants that have been grown for the production of exhibition blooms. The growths that surround the flower bud should be removed carefully with the point of a knife directly they can be distinguished. If by any chance the flower bud is not healthy or well formed allow one of the shoots to lead away again; this in due course will

form another bud at the extremity of the shoot, which will be surrounded by flower buds instead of growth. Directly the flower buds have been secured top-dress the plants with a compost of rich material. If root action is healthy the plants will soon take possession of it, and the aim must be to keep the roots active until the last, if the finest of blooms are to be secured. This is readily accomplished once the roots are on the surface by placing a little of some suitable artificial manure on at intervals of a fortnight. Weak stimulants may be given every time the plants need water, but strong doses must be carefully avoided, or more harm than good will result. It often happens that the roots are burnt at this stage by overfeeding. It is a good plan to place a bag of soot in the tank from which water is daily used. An additional stimulant may be made by placing 1 lb. of nitrate of soda and 2 lbs. of superphosphate in a tank containing 40 gallons of water. This may be further mixed with water and given twice a week. Liquid from the farmyard in a weak state may also be given as a substitute occasionally. Watch for aphides, and if they show in the points destroy them at once by the aid of tobacco powder. Keep the growths well tied to their stakes for fear of strong winds breaking them. Syringe the plants freely twice daily when bright. Those grown as bushes for cutting should be liberally supplied with stimulants. Where a number of fair blooms are preferred to a greater number of smaller ones the crown buds in each case should be selected. Tops that have been rooted into 3 and 4-inch pots should be stood in an open sunny position.

Calceolarias.—Plants that are large enough for 2-inch pots should be placed into them at once. Grow them in frames with a north aspect where they can be kept cool and moist. Prick seedlings into pans and boxes and grow them under the same conditions. Watch for slugs, which are very troublesome to these plants.

Carnations.—Plants of *Souvenir de la Malmaison* that have done flowering may be turned out of their pots into light soil, and the growths layered. This is best done by laying the plants on their sides. If kept somewhat moist afterwards the layers will soon form roots, when they may be taken off and potted singly. Plants that are healthy and have flowered in 6-inch pots may be placed into 8-inch. Use for these three parts of good fibry loam, one part of leaf soil, one-seventh of decayed manure, and a liberal quantity of sand. Water the plants carefully until they are rooting freely in the new soil, but on no account allow them to become dust dry. Until the approach of frost they are better outside on a bed of ashes than under glass. When kept under glass they are liable to be attacked by red spider.

Mignonette.—Be careful that pyramids and standards that are growing freely do not root through the base into the ashes upon which they are standing. If allowed to root through freely the plants are checked when removed. Take care that they do not become dry; water them occasionally with soot water in a clear state. Give artificial manure occasionally to the surface of the soil. Remove all flowers as they appear, and keep the growths tied to the trellis upon which they are trained. Give the plants abundance of air. Thin out plants that have been sown in 6-inch pots; seven or eight plants in each will be ample. Another good batch may be sown, and another early in September for spring flowering. These when sown should be placed in cold frames, shading with a mat until the seed has germinated.

Roman Hyacinths.—The earliest batches of these should be potted without delay; place five bulbs in each 5-inch pot. If the soil is in an intermediate state for moisture do not give any water, but plunge them in ashes at once before the soil becomes dry. It is a good plan to place them behind a north wall at this season of the year, and to place over the pots an extra covering of ashes. Successional batches may be potted at intervals of three weeks or a month until the end of October.

Freesias.—Imported tubers may be potted at once. These do well in 4-inch pots, the tubers being placed thickly together in sandy, moderately rich soil. If possible place them in a frame where the pots can be covered beneath 1 inch of cocoa-nut fibre refuse, and shaded by the aid of mats until they start into growth. Those that have been resting outside may be turned out and spread out to dry if they are not in that condition. These can be potted in batches as may be required.

Kalosanthes.—Plants that have flowered may be cut close back and allowed to break into growth. Any shoots that have failed to flower may be placed singly into small pots, or a number together in 5 or 6-inch pots. These if rooted without forcing them into growth, and then freely exposed to the sun, will flower another year. If an increase of stock is needed the stems may be cut into lengths; these make capital plants, as they branch freely, but need to be grown for two seasons before they are in a condition to flower. Plants that were cut back last year must be freely exposed to sun and air to ripen and harden them before they are housed for the winter.

Lilium candidum.—Where these are appreciated in pots no time should be lost in potting imported bulbs. These, if of the largest size, should be placed into 7-inch pots, covering the bulbs with about 2 inches of soil. Plunge the pots beneath 2 inches of cocoa-nut fibre refuse until they grow through, when the plunging material may be removed and the plants watered. Home-grown bulbs may be lifted as soon as the flowers fade if needed for potting. Whether home-grown or imported they can be stood outside until the approach of frost if frame room cannot be spared for them, but as a rule they do not start so freely into growth.

THE BEE-KEEPER.

APIARIAN NOTES.

THE HONEY SEASON.

FOR miles round about here the honey yield is poor; very few finished supers have been secured. Most hives at the present time are in a much better condition than they were at the same time in 1891. Prime swarms are, as a rule, weighty, and altogether at variance with the evidence of that sage who says, "No honey can be got from prime swarms," and who further says he is the guiding star to Scotch bee-keepers. The last is, perhaps, not verbatim, but is in meaning the same.

SWARMING.

As there are many erroneous opinions amongst bee-keepers on this subject, and even amongst some who assume to be authorities, it is perhaps an opportune time to help them a little by stating a few facts about it. Swarming takes place under different circumstances; in early spring by an effete or diseased queen or a drone breeder, or it may be through incipient foul brood. Premature swarms leave hives when the queen has become exhausted and young ones are raised to supersede her. These swarms should be returned, and unless the weather is favourable, and there are plenty of drones, should be joined to another hive. Proper swarms leave the hive when it becomes crowded and all the cells are filled with honey, eggs, and larvæ; the young bees by an unexplainable instinct having for about a week previously built many royal cells around eggs destined to become mothers. These are matured in sixteen days from the laying of the egg, and if the weather is favourable the first swarm would issue about eight days after their commencement, but not unfrequently the weather is untoward, and swarming is delayed till some of them are hatched, when it is a question whether the old or young queens will be saved, sometimes the one and sometimes the other. Although sixteen days is the allotted time, the bees seal the cells anew after they have protruded their tongues and been fed, and will keep them prisoners for several weeks.

THE SEALING OF THE ROYAL CELLS

is attached to the side walls by a gummy adhesiveness, which until the sixteenth day is tough, and like one and the same; but after that time it loses its adhesiveness and becomes brittle, inclining to leave the side walls, which the slightest pressure from within forces open and the queen escapes. The sealing appears to be a spun fabric, slightly covered with wax and pollen.

SIGNS OF SWARMING.

Only practical bee-keepers can determine the time a hive is likely to swarm by external appearances. Generally, the bees take rallying flights a day or two beforehand, but the most certain indications are the almost entire cessation from work, and the bees filling themselves with honey from the stocks' stores. They do this in relays, and the gorged bees can be recognised on the alighting board. After this they begin to fly as if to rally, and then the well-known swarming sound, familiar to the bee-keeper's ear, is heard. If the time is favourable the bees will leave, and even those that were out foraging will join the swarm after it has been hived. The bees of the swarm and the stock will remain separate, even although their positions are changed, unless the latter is removed a long way distant or to within doors. It will be observed, then, that swarming is premeditated days before the event, and the bees are not urged on to swarm by the loud hum of the drones or of bees either. Previous to, and at swarming, drones remain in the stock hive more than at any other time, and few of them go with the swarm. The first swarm issues because of the presence of queen cells containing young princesses.

AFTER SWARMS.

These issue on the same principle. At this time, with so many royal cells to guard, the swarming fever runs high. Each detachment, had they bees, would form a nucleus, but this would be ruinous, so many of the young princesses are destroyed, some by the bees and some by a queen. The queens still in the cell are often imprisoned for several weeks, as the bees destroy them reluctantly, and if there are bees with one hatched queen and all the others in their cells, a swarm will issue even although separated by a queen excluder.

To preserve young queens it is necessary to have them caged over queen excluder zinc in an otherwise queenless hive. The reluctance of bees to destroy royal cells shows how faulty the method is of returning an after swarm so long as a queen cell

exists. Brood-spreading, together with the returning of after swarms as hinted at above, is advice after the fashion of "drawing a bow at a venture," and is as deceptive as it is absurd and disappointing to the novice. Many who have tried and depended on the wholesomeness of the advice will not do so again.

PLURALITY OF QUEENS.

In all stocks, unless timely destroyed, this is a great hindrance to profitable bee-keeping, because weeks may pass before the queen to reign is selected, hence the loss of the best of the season. Always bear in mind that virgin queens long in a hive are a certain loss to the bee-keeper, and the reverse the opposite.

PUNICS.

I observe at page 134 there is a clerical error. "Its contents being 50 lbs." should read 60 lbs., being about a third heavier than any other swarm in the neighbourhood.

The crossed Punics have kept up their reputation as good honey gatherers, mild tempered, and steady working. One hive, a prime swarm, of these bees has given 40 lbs. of super honey, irrespective of what the body of the hive contains. The last time it was weighed its nett contents were 65 lbs., not bad for a season like the present, in which there has never been a complete working day for the bees, mostly not more than two hours. The prevailing winds have been from north to north-east and north-west, directions during which little or no honey is secreted. These cold, barren winds, with low temperatures, neither fill the air with sweet odours nor hives with honey.

PROSPECTS OF THE HEATHER.

The Heather is late in flowering this year, but it may be remembered that for several years past the finest weather occurred in September, so that lateness of flowers does not signify no honey.

I am likely to stay beside my bees for some time, and will watch their proceedings and notify the results of the different varieties to readers.—A LANARKSHIRE BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

Messrs. G. Bunyard & Co., The Old Nurseries, Maidstone.—*Roses, Bulbs, Strawberries, and Small Fruits.*

Messrs. Dickson & Robinson, 12, Old Millgate, Manchester.—*Bulbs.*

Messrs. Ellwanger & Barry, Mount Hope Nurseries, Rochester, N.Z.—*Strawberries and Bulbs.*

Messrs. Fisher, Son, & Sibray, Handsworth, Sheffield.—*Bulbs.*

Messrs. Sutton & Sons, Reading.—*Bulbs.*

Messrs. Veitch & Sons, Royal Exotic Nursery, King's Road, Chelsea, London, S.W.—*Bulbs.*



* * * All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Seedling Begonia and Petunia (*R. Creighton*).—The Begonia is one of the Hollyhock-flowered section of doubles, and the colour, bright salmon pink, is attractive. If the variety is a free bloomer, of compact habit, and with strong flower stems carrying the blooms well clear of the leaves it is a good one. The Petunia, a fringed double white with violet centre, is very beautiful.

Packing Grapes (*Packer*).—If you pack the Grapes carefully in the manner you suggest they ought not to suffer from shaking; but as nearly a fortnight must elapse from the time they are cut until they are unpacked, it would probably be well to pack a wide-mouthed bottle with a tightly-fitting cork in the basket, and bore a hole through the cork to pass the stem through, wedging it to prevent shaking and the escape of water.

Dahlias Sporting (*E. Johnson*).—It is by no means unusual for Dahlias to produce flowers differing in colour on the same plants. We have seen hundreds of examples. In some cases half the blooms may be of one colour, the other half quite different, and on the same plants the entire blooms may be of a different colour from the majority on the plant. Some varieties are more prone to change than others in the manner indicated.

Screen under Cedar Trees (*B. D. K.*).—If the shade is very dense you will probably have some difficulty in inducing shrubs to grow freely under Cedar trees. Nor is the shade alone an obstacle, for the dry impoverished soil must be inimical to growth. We have seen Evergreen Privet grow very well under trees, but only when excavations have been made, the old soil removed, and fresh introduced for planting in. This was also kept moist by periodical waterings, and mulching the surface with manure or decayed vegetable matter. Earth moisture is essential for the growth of the shrubs.

Gros Maroc and Gros Colman Grapes (*Robert Mackellar*).—The Grapes you send are correctly named and very fine examples of the respective varieties. They are distinct in foliage and fruit. Occasionally the leaves of Gros Maroc develop a round or almost flattened form as in your case, but the difference in the quality of the fruit is very apparent. There is a suspicion of "earthiness" in the Gros Colmans, whereas the Gros Marocs are vinous and sprightly. The judges erred as others might have done in judging by appearance alone, but all the same the varieties are quite distinct, and we are glad to see such evidence of good culture.

Saving Seed of Ten-week Stocks to Secure Double Flowers (*H. H.*).—The seed saved at random from single flowers produces a very large percentage of single-flowered plants; but seed saved from the finest single-flowered, grown specially for the purpose, afford a large percentage of double-flowered plants. Your only chance of saving seed to secure a large portion of plants with double flowers is to grow the best of the single-flowered plants in pots and under glass, selecting those only for producing seed which have large flowers, and if possible with more than four petals, feeding the plants highly, but not excessively, so as to secure fine pods and good plump seeds, which require the protection of glass in this country to ripen perfectly. The plants should be raised from seed early in the season so as to give them ample time to grow and mature the seed.

Vallota purpurea Treatment (*T. F. W.*).—This fine late summer and autumn flowering bulbous plant does not require any particular treatment to insure its free blooming, but it is necessary that the plants have a light situation in a greenhouse, and as near the glass as may be without touching at all times, especially during the winter, and be kept properly but not needlessly supplied with water. Overpotting is a great evil, and the removal of the suckers destructive of fine specimens. The plants may yet flower, as there is ample time for them to do so, and the flowers are more valuable late than early. The thing is to get the plants strong by growing them in plenty of light, and then they will form fine bulbs, and throw up two scapes of flowers each.

Chrysanthemum Shoots Shrivelled at the Points (*X. Y. Z.*).—The Chrysanthemum shoots are infested with a "rust" or minute fungus (a Septoria), which at this time of year affects the growing points of various plants, including Vine laterals and the terminal growths of young Vines, causing them to become brown and to shrivel. An allied species infests Tomatoes, Pear trees, Cherry and Apple trees, and seems to be largely on the increase. The remedies for these minute parasitical fungi have only reached the initiatory stage. The plants should be grown as hardily as possible, but the locality has a good deal to do with the susceptibility of the plants to attacks; a wet cold subsoil favours the assaults through the increase of night dews and fogs.

Cucumbers Failing (*H. J. W.*).—We received the small Cucumbers before our last issue was printed, and they were referred to on page 134, but your letter did not reach us till after our reply was published. If you are correct in saying "they have had every possible requisite attention bestowed upon them" you may conclude they are the victims of disease, but we cannot say it has been introduced by the seed. We have seen hundreds of similar Cucumbers in a house. The border was covered with soapy manure and quite wet, but when we examined the soil down to the slates over the heating chamber it was very much too dry. After the error was rectified the fruits set and swelled freely. You say you have "used a lot of cow manure." We do not know what a "lot" means, but we know it can be used in excess for Cucumbers. Try the effect of rough turfy loam with a seventh part of wood ashes and half that quantity of lime. Maintain a night temperature of 65°, manage the ventilation and atmospheric moisture judiciously, and the change from your treatment may perhaps do good.

Scars on Apples (*J. C.*).—The "scars" are probably due to moisture resting on the skin of the fruit next the eye in the early stages of growth, and has caused the destruction of the outer skin, and the "rust" or russet has spread in consequence of the growth of the fruit, and another skin has been formed in its place, the russet being the useless matter cast off in the formation of the new skin. The edge of the scar is quite as distinct as when it was first formed, the new skin being distinct from the old, and it will be so until the growth of the Apple is complete. There is no fungus of a destructive nature, certainly.

no scab fungus, to which the scars have some resemblance at first sight; the scab fungus entirely destroys the epidermal tissues, and proves so destructive to the flesh immediately beneath as to prevent the formation of a skin, consequently the fruit cracks through the contraction and efforts at expansion or growth on the part of the fruit cells. The scars are great disfigurements, but quite unpreventable, and need cause no anxiety.

Various (Kittie).—1, We fear slugs would devour Stocks as well as hardy annuals in a narrow border between a Yew hedge and Ivy edging. We suspect the position would be too dry for Violas, and you do not wish to employ tender bedding plants. Why not employ hardy border flowers such as Pinks, Carnations, and various other kinds? We could give a selection if desired, and if you repeat the length and width of the border. If you prefer a gay border at small cost it might be had by sowing seeds of dwarf Tropæolums, and slugs seldom destroy these plants. 2, We should bud the Briars now that you intend moving in the winter, as even in case of the failure of some, you could cut back the stems for producing others to bud next year. 3, If you wish for the greatest possible number of Roses, they will be had by pegging down the long growths, or bending them in the form of arches with the points affixed to the ground. In pruning Roses a good rule is to leave the strongest growths the longest, and to cut back the weakest the most closely.

Moving Magnolia (T. F. W.).—The Magnolia, we presume, is an evergreen, such as *M. grandiflora* or an allied species or variety, and in that case it may be moved in the way you describe—namely, by making a trench all round—that is, on the front, as the tree is against a wall, and at such distance from the stem as to preserve a fair amount of roots, which will be laid in 3 or 4 feet from the stem. Make the trench so deep as to be sure of the main lateral roots, and all the down roots should be cut off at that depth by working from the trench under the tree and ball to the wall. The tree may then be drawn back to the desired place, and if care is taken to preserve a good ball, to carefully fill in the soil about the roots, and give a good watering, there is every chance of success. The moving may be done towards the end of September, or by the middle of that month, but take the precaution to well water the tree in advance of commencing operations, so as to have the soil thoroughly moist to the extent of the intended ball. If the tree is a deciduous variety it should not be moved until the leaves are matured and commence falling.

Celery Failing (A Constant Reader).—Canker at the roots causes the plants to become stunted and yellow as you describe, and is generally attributed to an excess of oxide of iron, but the roots are sometimes corroded by other corrosive substances, such as manure that has become sodden and sour, or water that has got impregnated with deleterious matter. We can only suggest applications of soot, a little sprinkled over the plants and on the sides of the rows, and a sprinkling of nitrate of soda on the sides of the rows, but clear of the plants, would no doubt send the latter off with a bound, but the merest sprinkling only should be given, or it will cause the plants to become too tender and decay instead of keeping sound when earthened. Guano also is an excellent application. Applications of liquid manure would also be beneficial by causing the plants to push fresh roots, and so outgrow the canker, the iron being neutralised by the ammonia.

Leaves Falling from Peach Trees (W. H.).—The leaves are scorched by sun acting powerfully upon them whilst wet, the water having rested some time on the leaves and weakened their tissues. This sometimes causes so severe a check as to bring off the leaves both on trees under glass and in the open air against walls. There is no disease on the leaves whatever, but they have every indication of gum disease infecting the branches, the leaves becoming blotched and falling in consequence of ill supplies of sap, the gum having closed the alburnous layers of wood. Sometimes the leaves are cast through overcropping or insufficient supplies of water to meet the requirements of the leaves in evaporating under powerful sun; and they are sometimes cast from the thinness of the epidermal tissues, which, unable to sustain evaporation under powerful sun, especially after a dull period, when the foliage becomes thin and soft, are scorched and rendered limp, the leaves, however, not falling until the sap flows freely, and their conduits being closed they are shed. There is some red spider on the leaves, but not much, not sufficient to account for the leaves falling, and some are quite clean.

Names of Fruits.—*Notice.*—Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. (J. F.).—Two of the fruits were completely spoiled, and one only arrived as sound as when you placed it in the box. We do not, however, undertake the naming of Plums without knowing whether the summer shoots of the varieties are smooth or downy, this being an important feature in leading to identification.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (E. A. P.).—1, Cannot identify; 2, *Campanula urticifolia*; 3, *Ruta graveolens* (Rue); 4, *Campanula urticifolia alba plena*; 5, *Campanula latifolia alba*; 6, *Campanula persicifolia alba*. (J. C.).—1, *Inula Helenium*; 2, *Hieracium aurantiacum*; 3, *Achillea Ptarmica flore-pleno*; 4, *Centaurea macrocephala*; 5, *Lysimachia vulgaris*.

COVENT GARDEN MARKET.—AUGUST 17TH.

BUSINESS getting quieter, with supplies falling off.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, half sieve	1	3	to	4	Oranges, per 100	4	0	to	9
Currants, Red, half sieve..	2	3		3	Peaches, per dozen	2	0		6
" Black, half sieve..	4	0		4	Plums, per half sieve..	3	6		7
Grapes, per lb.	0	9		2	St. Michael Pines, each ..	3	0		6
Lemons, case	10	0		15					

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beans, Kidney, per lb. ..	0	2	to	0	Mustard and Cress, punnet	0	2	to	0
Bect, Red, dozen	1	0		0	Onions, bunch	0	3		0
Carrots, bunch	0	4		0	Parsley, dozen bunches ..	2	0		3
Cauliflowers, dozen	2	0		3	Parsnips, dozen	1	0		0
Celery, bundle	1	0		1	Potatoes, per cwt.	2	0		5
Colworts, dozen bunches ..	2	0		4	Salsafy, bundle	1	0		1
Cucumbers, dozen	1	6		3	Scorzoneria, bundle	1	6		0
Endive, dozen	1	3		1	Seakale, per basket	0	0		0
Herbs, bunch	0	3		0	Shallots, per lb.	0	3		0
Leeks, bunch	0	2		0	Spinach, bushel	3	0		3
Lettuce, dozen	0	9		1	Tomatoes, per lb.	0	2		0
Mushrooms, punnet	0	9		1	Turuips, bunch	0	3		0

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	2	0	to	4	Maidenhair Fern, doz. behs.	4	0	to	6
Asters, French, bunch ..	0	6		1	Myosotis or Forget-me-not,				
" English, doz. bunches ..	2	0		6	dozen bunches	2	0		3
Bouvardias, bunch	0	6		1	Mignonette, 12 bunches ..	1	0		3
Carnations, 12 blooms ..	0	6		2	Orchids, per dozen blooms ..	2	0		8
Carnations, Malmaison, 12					Pansies, dozen bunches ..	1	0		2
blooms	1	6		6	Pelargoniums, 12 bunches ..	4	0		6
Carnations, dozen bunches ..	4	0		6	" scarlet, 12 bunches ..	3	0		4
Cornflower, dozen bunches ..	1	6		3	Pinks, dozen bunches	2	0		4
Echscholtzia, doz. bunches ..	2	0		3	Poppies (var.), doz. bunch ..	1	0		4
Eucharis, dozen	2	0		4	Primula (double) 12 sprays ..	0	6		0
Fuchsias, per bunch	0	6		1	Pyrethrum doz. bunches ..	3	0		6
Gardenias, per dozen	2	0		4	Roses (indoor), dozen	0	9		2
Gladioli, various & spray ..	1	0		3	" (outdoor), doz. bunch ..	2	0		6
Gypsophilas, English, ..					" Red, per doz. blooms ..	1	0		2
per bunch	0	3		0	" Tea, white, dozen	1	0		3
Lavender, doz. bunches ..	4	0		6	" Yellow, dozen	2	0		4
Lilium longiflorum 12 ..					Stocks, dozen bunches ..	3	0		6
blooms	2	0		4	Sunflower, doz. bunches ..	2	0		6
Lilium (var.) dozen					Sweet Sultan, doz. bunches ..	2	0		3
blooms	0	6		2	Sweet Peas, dozen bunches ..	1	6		4
Marguerites, 12 bunches ..	2	0		4	Tuberose, 12 blooms	0	3		0

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (golden) dozen	6	0	to	12	Lobelia, per dozen	3	0	to	6
Begonia, per dozen	6	0		12	Lycopodiums, per dozen ..	3	0		4
Caleolarias, per dozen ..	3	0		6	Marguerite Daisy, dozen ..	6	0		12
Cupressus, large plants, each	2	0		5	Mignonette, per dozen ..	4	0		6
<i>Draena terminalis</i> , dozen ..	18	0		42	Myrtles, dozen	6	0		9
" <i>viridis</i> , dozen	9	0		24	Palms, in var., each	1	0		15
Euonymus, var., dozen ..	6	0		18	" (specimens)	21	0		63
Evergreens, in var., dozen	6	0		24	Pelargoniums, scarlet, doz.	2	6		4
Ferns, in variety, dozen ..	4	0		18	" per dozen	6	0		12
" (small) per hundred ..	8	0		12	Rhodanthes, per dozen ..	4	0		6
Ficus elastica, each	1	6		5	Trailing plants (various),				
Foliage plants, var., each ..	2	0		10	per dozen	3	0		9
Fuchsia, per dozen	3	0		8	Tropæolum or Nasturtiums				
Geraniums, Ivy	4	0		6	per dozen	4	0		6
Hydrangea, per dozen	9	0		15					



DAIRY REFORMS.

FURTHER consideration of this important subject brings with it the conviction that practical hints will now have especial attention from committees having the matter before them, and who are seeking for information for their guidance in framing measures calculated to prove really useful. Another article may therefore be more to the purpose now than later on. Some repetition of

facts may occur, as our object is to miss no point of importance; minor details are easily worked out when once the guiding principles are understood.

Since separators have come into general use much waste both of butter, building space, and time has been avoided, for they are an admirable embodiment of efficiency and economy. Milk pans, and the space required for them, are now dispensed with, all the storage space required for milk being two cisterns, one for receiving the milk as it is weighed into the factory, the other being for the separated milk as it comes from the separator, both being placed above the dairy, where now milk is positively never seen, except when whole milk is churned as a test of quality. Since Lefeldt's separator was first seen at the International Dairy Show at Hamburg some fourteen years ago many improvements have been made, but the principle is the same in all. It is simply centrifugal force acting upon the different gravities of the component parts of milk. In factories the milk flows from the receiving cistern through a pipe into a cylinder revolving with great rapidity. The lesser gravity of the cream causes it to gather to the centre and run off through a pipe, while the milk as the cream leaves it rushes to the outer sides of the cylinder, whence it passes through a pipe to another cistern. In hand machines the only difference is the pouring in of milk by hand, and the outflowing of the separated milk and cream into pans or milk-pails. The spectacle is positively fascinating; we never can go past a separator at work without pausing to admire this marvellous result of the application of a simple natural law to practice. How is it done? is the question plainly indicated by the puzzled countenance of many a worthy farmer at the dairy shows.

Important as this step onwards of the prompt separation of cream from the milk undoubtedly is, it has another and still greater advantage in its thoroughness. Very many trials have been made of separators and milk pans; one will suffice here. Forty-three experiments were made at a trial in the Munster Dairy School, the averages from a given quantity of milk being 100 lbs. of butter from a Danish separator, 59 lbs. from milk set for twenty-four hours in open pans, 66 lbs. from that set for thirty-six hours, 73 lbs. from the cream obtainable in forty-two hours, and 76 lbs. as the maximum quantity possible from skimming the cream for a period extending to fifty-four hours—a practical impossibility in very hot weather. This reminds us of another fact, which is that the separated milk is quite fresh, and is more valuable than skimmed milk, is a marketable commodity, and meets with a ready sale at a low price as separated milk. In Munster the shareholding farmers take away the separated milk from the creameries for the pigs. At the Glynde factory it is scalded as it comes from the separator in a Lawrence scalding at a temperature of 160°, and is sold to the dealers at 3½d. or 4d. a gallon, they retailing it at 1½d. or 2d. a quart.

The question is frequently raised, How are we to dispose of British butter? That question was answered in general terms last week. Here is something more specific. With an output of 2000 lbs. of butter weekly at Lord Hampden's Glynde factory the prices range from 1s. 6d. per lb. from the beginning of October till the end of March to 1s. 4d. in April and May, and 2d. less during summer, there being no limit to quantity, buyers are willing to take all they can get. For the butter made at Lord Spencer's dairy at Harleston about the same price is obtained, and there is a similar demand for it.

Such landlords' factories are an undoubted boon to tenants, but we are most anxious that tenant farmers should be induced to combine in the establishment of co-operative factories. If technical education can induce them to do so it will have done very much to restore prosperity to agriculture. One of the highest authorities upon the subject has laid it down that, a doing factory in the hands of an ordinary middleman, whose only object is to buy in the cheapest market and sell in the dearest is a source of injury to dairy farmers. Of course it is, and they

must be shown how to do better for themselves. It is notorious how at middlemen's factories the price given for milk is constantly falling; factory profits undoubtedly mount up proportionately. The meek, submissive graziers go on accepting reductions of prices forced upon them, still supplying the milk, grumbling lustily and persistently, but doing positively nothing to improve or alter matters. We know of a shrewd middleman in the midlands who this season sold off all his cows, let his pastures, buys milk for his factories, avoids all risk from losses or sickness of cows, and all expense of keeping cows, simply because he has found he can get all the milk he wants at what is practically his own price.

WORK ON THE HOME FARM.

Wherever steam tackle is available it should be kept going in field after field as crops are cleared. Light two-horse ploughs, easily used by boys, are also brought into use during harvest, at any rate while reaping is being done and the horses are not wanted except for the reaper. Every available hand must now be turned to account to save the corn and clean the land. We urge this upon the attention of our readers because the habit of slovenly practice, of leaving ploughing till winter or spring, is so general that even the few acres of arable land of dairy farms are as badly cultivated as the big fields of corn farms. Without due recognition of the importance of autumn tillage there cannot be clean land; with it weeds are destroyed, soil well stirred and thrown up into ridges for winter, and a deep early seed bed in spring is a certainty. It is only light sandy soil that does not require ridging, all other is the better for it.

Much clay burning has again been done, and a good dressing of it will be given to more of the heavy land deficient in mechanical division. There is nothing better to open up the soil, for promoting free and thorough drain action, and the circulation of air through the soil. That is our reason for burning clay, and we hold that a reason should be forthcoming for everything done on the farm.

Lime fresh from the kiln at the rate of 60 bushels an acre is good for all land at intervals of five or six years, and is of especial value for clays; it, too, divides the soil particles, as well as having a wholesome chemical action on it. We prefer using it in early autumn, placing it about the surface in small heaps; it is soon slaked by absorption of atmospheric moisture, and is at once ploughed in. The tendency of this and all autumn tillage is the opening up, cleaning, and thorough division of soils. Get this well done, and leave fertilisers alone till the time draws near again for spring cropping. It is, of course, understood that winter corn must have the usual dressing of manures, using about a hundredweight per acre of sulphate of ammonia with the minerals for very poor land; but where land is in good heart nitrogenous manure may be withheld till spring, when a timely dressing of nitrate of soda sets the plants growing freely, and goes far to promote a strong growth of straw and the development of full ears of large grain—a heavy crop in the full sense of the term, and we should be satisfied with nothing less.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.				Rain.
1892. August.	Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.
Sunday .. 7	30.028	62.4	59.3	W.	61.9	71.3	57.6	110.7	51.8	0.052
Monday .. 8	29.911	62.6	58.9	S.W.	61.4	78.4	57.9	122.9	55.3	0.124
Tuesday .. 9	29.916	56.4	54.2	N.E.	62.0	63.7	55.8	103.0	55.4	—
Wednesday 10	30.256	54.6	49.0	N.E.	60.3	65.0	50.6	113.8	49.3	—
Thursday .. 11	30.253	58.4	51.4	S.W.	59.7	72.3	43.1	112.4	37.3	—
Friday .. 12	30.149	63.3	57.2	S.W.	59.9	76.5	49.9	117.7	44.6	—
Saturday .. 13	29.791	69.2	60.6	S.W.	60.4	77.2	50.7	123.9	43.8	0.013
	30.043	61.0	55.8		60.8	72.1	52.2	114.9	48.2	0.189

REMARKS.

- 7th.—Rainy from 2 A.M. to 9 A.M.; generally sunny from 11 A.M. to 1 P.M.; frequent spots of rain after, a slight shower at 3 P.M., and wet evening.
8th.—Cloudy early; bright and sunny till 4 P.M.; occasional spots of rain after 5 P.M.
9th.—Rain early; overcast morning, with occasional spots of rain; a little sun in afternoon, and overcast again in evening.
10th.—Overcast morning, sunny afternoon.
11th.—Fine and generally sunny.
12th.—Bright sunny day; aurora between 9 and 10 P.M.
13th.—Sunny early, generally cloudy after 10 A.M.; slight showers in afternoon; fair evening.

A rather cloudy week, but with no day entirely overcast. Temperature very near the average.—G. J. SYMONS.



NOTES ON SWEET PEAS.

IT would appear that these highly esteemed annuals are this season very deficient in quality owing to the bad harvest of seed last year. In some instances I have heard of, an admixture of the seed of Tares had been added in order to spin out the quantity, and in most cases a larger quantity than usual of the commoner sorts had been used in making up mixtures. This has not been invariably the case, as I do not think I have ever had a choicer collection of mixed sorts, the colours being varied and the individual blooms large and fine. With varieties grown under name I imagine there would be no difficulty in making up bunches of separate sorts to the number of twenty-four, and perhaps even to thirty. Some of these varieties are doubtless of but slight value for decorative purposes, and it may soon become an established practice to select a few by name or colour and to grow these to the exclusion of many of which the value is but slight.

This system may be objected to as entailing an additional expense for flowers which can be had in quantity for a very slight annual outlay, but we have as a set off the quality of floriferousness increased to a great degree in selected sorts in addition to a larger number of blooms on each flower stalk, the blooms, moreover, being greatly increased in size. Then there is no doubt that Sweet Peas are much too thickly sown. The best crops I have are on plants set out a foot apart. These are of the newer kinds, and were started under glass in pots and planted out in late spring. Each was pinched once in order to obtain a bushy plant with four or five main shoots, and there is simply no comparison as to the amount of bloom on them and on older varieties sown in the usual way, though not at all thickly. It may seem somewhat absurd to enter into any detail as to the best method of cultivating this simple easily grown flower, but the ease of its culture is, I am afraid, a serious drawback to securing Sweet Peas at their best. I have already mentioned thick sowing as a detail to be avoided, and I have no hesitation in affirming that thinly sown Peas invariably give the best results as to crop and size of flower, while the period of blooming is extended.

I do not think that a rich soil is conducive to the best results. A more rank growth is no doubt obtained, but that means either taller plants, with longer sticks to cling to, or broken-over growths where the sticks are short. The best form of manure I know for Sweet Peas is soot applied after the seedlings are through the ground. Superphosphate of lime is also very beneficial, but not to the same extent as soot. The way I discovered the merits of this common manurial agent was through the difficulty experienced in keeping pheasants from destroying the young plants—of which they are particularly fond, grubbing the whole crop up if allowed to go on unmolested. On one occasion when time was scarce a very thick coating of soot was sown on the plants. This had at once the desired result in disgusting the pheasants and at the same time securing finer Peas than we had ever seen before. The dressing has since then been annually applied. A mere sprinkling is not of much use; a barrowful is applied to from 30 to 40 yards run, and one dressing is sufficient for the crop.

Another point of much importance is deep sowing. The necessity for this practice is found in the roots being well out of the way of drought. Shallow sown seeds invariably cause a falling off in the plants during a short spell of dry weather, while

deeply sown seed secures the plants against any short vicissitudes of temperature. The practice of drawing soil to the plants previous to staking acts beneficially, because it keeps drought away. Many years ago I began to have all the pods gathered off the plants before they caused a cessation of flowering, which continued podding does. In some years the rows require to be picked over twice; but, as a rule, once is sufficient in our district. This practice insures a supply of good flowers until stopped by frost. The way we employ foliage in which to set up the blooms has also a good effect in securing a continuous bloom; causing, as it does, an unfailing supply of young shoots to be produced from the stems, the tops of which had been removed.

Any remarks on Sweet Peas would be incomplete which made no reference to the strains under name, and which show quite as wonderful a progress as almost any other flower during the past few years. Several good varieties have been before the public for some time, such, for instance, as Princess Beatrice, a soft rosy variety of much beauty. But prettier even than this is Apple Blossom, a flesh coloured sort, not of the largest size of flower, but very lovely in its shade. Countess of Radnor is a meet companion for it, the shade being a French grey or very light blue of the most charming effect. Unfortunately the colour does not appear to be quite fixed, as several shades of blue are found among the plants. Of even greater beauty is Mrs. Eckford, which has a blossom of quite a pale straw colour, almost white indeed. This, I think, is the most beautiful of all Sweet Peas, at the same time many prefer to place Countess of Radnor in that position, and in any case neither can be done without where flowers of the finest quality are desired. The largest variety I know is Her Majesty, a glorious flower in the way of Splendour, to which it is much superior. The colour is a clear light pink. Of a much softer shade, indeed only a little deeper than Princess Beatrice, is Mrs. Gladstone. Few of the sprays on this fine variety carry less than four large blooms each, and occasionally a spray is found with five. The stem is also of good length, and for vase decoration it is a valuable kind.

Of the dark sorts Boreatton has many admirers, but I cannot say I like it so well as many others. For a crimson, perhaps, there is nothing better than Cardinal, which is very bright and glowing. Ignea is in the same way with larger flowers, but I do not know that it is so effective as the other. Of whites both Queen of England and Mrs. Sankey are good; the latter is a variety of very strong growth, a feature which detracts from its usefulness. The stalks are of great length, and the flowers of the clearest white. There is not yet a good blue, so far at least as I have had experience, and a yellow is more than the blue a thing of the future. We have Primrose, which is said to be yellow, but much of the yellow is a delusion. However, we may hope for something better ere long. Mr. Eckford has evidently mastered the problem, and has his Sweet Peas so well in hand that anything he may produce will be received with gratitude, though without surprise.—R. P. BROTHERSTON.

SCHEDULES AND THEIR INTERPRETATION.

ALTHOUGH I had nothing whatever to do with the fruit judging at Trentham, it has often fallen to my lot to share in the adjudication of prizes, and therefore I naturally take an interest in the question of the framing of schedules, and the interpretation of the terms employed in the classes. I have no preferences or prejudices in respect to the Trentham case of disqualification; but regarding it from a judicial point of view, and recognising, as we must recognise, in case of doubt, the intention of committees who prepare schedules for the guidance of exhibitors and judges, I am bound to dissent from some opinions that have been expressed in the *Journal of Horticulture*.

A correspondent ("W. H. M.") states, on page 122, his belief

that Mr. McIndoe was fully justified in exhibiting two Pine Apples as separate dishes in one class, when "one Pine" was specifically named, going on to say "the Judges ought to have fully considered the words in the schedule" before arriving at a decision. Evidently he thinks they did not do this, and they will scarcely thank him for the compliment. In my experience there is no duty more distasteful to a judge than to disqualify an exhibitor, and I have never known it done without giving the most anxious and careful consideration to the terms by which they are guided. Doubtless the Trentham Judges weighed the whole matter with grave deliberation, and that being so they were bound, in my opinion, to decide against the exhibitor. I certainly should have done so, and whoever stages in a similar manner under similar stipulations in future I shall, if an adjudicator, disqualify the collection.

If an exhibitor can stage two Pines as "separate dishes" when one only is specified, why cannot he stage three or four? Please answer that question, "W. H. M.," in as "definite" a manner as you say the terms of schedules should be. If you say he cannot do this you will be in conflict with Mr. McIndoe, who clearly indicates on page 103 that he was fully entitled to do so; in fact, to have staged six Pines. Now suppose he did this in a class of "nine dishes, to include two varieties of Grapes, one black and one white, one Melon, and one Pine," and you staged two dishes of Grapes, one Melon, one Pine, also separate dishes of Peaches, Nectarines, Figs, Cherries, and Plums, do you think you would have been wrong in your strict adherence to the precise terms as stipulated, and he would be right in departing from them to the extent of five Pines? Should you not have objected to being "swamped with Pines?" This is the precise logical result of your argument. It is also Mr. McIndoe's view. He says, on page 103, that after staging the stipulated four dishes he could complete the collection with "whatever kind of fruit he might think proper to use." What does this mean? It means that he could have staged five more dishes of Grapes or five more dishes of Melons, or it means nothing.

The proposition is in direct contravention of the whole spirit and practice of exhibiting fruit. It is exactly to prevent such an absurdity occurring that stipulations are framed similar to those above quoted. They convey the intentions of the Committee with sufficient clearness to practical men. The term "to include" has no such wide meaning as Mr. McIndoe suggests. It simply means that a collection must include the dishes specified, and that nine dishes made up without them would not be eligible for receiving a prize. That is the legitimate meaning according to all precedents in the history of exhibiting. The intention of the Committee is also clear and reasonable—namely, to place all competitors on an equality in respect to four prominent and important dishes, leaving them latitude with the remaining five. In respect to these the terms as published with the report of the Show on page 84, July 28th (I have not a Trentham schedule), are not precise, because the word "distinct" is omitted, and it is this which gives Mr. McIndoe room to say that he could fill them with five varieties of any one kind—five Pines, five Peaches, or any other fruit, but mark this—beyond those which are specified. The stipulated number of those—"two Grapes, one Melon, and one Pine"—can no more be exceeded than could ten dishes be allowed when nine only were named as the limit of the collection. If the word "distinct" is in the schedule the five dishes must be dissimilar from each other and from the four described. If it is not there can be no duplicating of those that it was imperative to include in the number so clearly specified.

Perhaps another correspondent, "W. H. D.," page 146, may now begin to see that the Judges had a basis on which to ground their decision. I may be permitted to doubt if this correspondent has either exhibited or judged many collections of fruit. I should have said that he wrote more like a lawyer than a gardener if he had been a little more cautious. His argument is based on a "presumption," and this a false one—namely, that the specified dishes could be duplicated. He is venturesome, too, in prophesying that ninety-nine out of every hundred exhibitors would interpret the conditions as he did. This is easily put to the test. Did one solitary exhibitor at Trentham, apart from Mr. Indoe, so interpret them? Not one. What, then, becomes of the unanimity? Just this, It is exactly the other way, diametrically opposed to the prophetic utterance and in strict conformity with the schedule, thus proving conclusively that its terms were well understood.

I have known cases of the whole of the exhibitors in a class failing to comply with the terms of a schedule which stipulated for six kinds, and they staged "varieties" under the assumption that they were "kinds." It was a pure mistake, and the collections were judged on their merits. In another case four out of five so erred, and the fifth was accordingly adjudged the first prize, though his produce was comparatively inferior. Had he failed to obtain

a prize he would have very properly entered a protest, and must have sustained his claim as the only exhibitor legally entitled to recognition.

It behoves judges to be extremely careful in doing justice between man and man, also in seeing that the stipulations of schedules are complied with, as laxity in this respect misleads exhibitors, and it would seem that even Mr. McIndoe was misled at Trentham through a mistake of the judges at a Crystal Palace show. But if judges should exercise care so ought exhibitors, while the terms employed in schedules cannot be too precise to prevent misunderstanding, and avoid the most unwelcome of tasks to adjudicators, namely—disqualifying exhibits.—A JUDGE.

SIXTY YEARS OF HORTICULTURAL PROGRESS.

(1760—1820).

(Continued from page 490, last vol.).

AN author, who wrote about London early in the present century, gives a somewhat amusing description of the block that often occurred upon Old London Bridge in the afternoon, and he notes that conspicuous amongst the crowd of vehicles were those of citizens hastening, or wanting to hasten when business was over, to their suburban villas. These suburban villas and their gardens, few of which remain, were very characteristic of the reign of George III., and they illustrated a style of garden arrangement and showed a variety of expedients that seem odd to us, but which formed a step in horticultural progress with all their defects. Another thing noticeable about these citizens' or gentlemen's villas was the employment they gave to gardeners, for in many instances the residents either had a gardener constantly employed (who might also have to act as stableman), or they hired one now and then from some nursery, or had some jobbing man. But a change has taken place, and though our increased population shows no diminution of interest in all branches of horticulture, there is less employment open to gardeners by profession than formerly. At the present time—frequently from economy, but also from love of the pursuit—a large number of persons occupy themselves in their own gardens, and do not engage others to do what may be required, except perhaps for the heaviest work. This has diminished the demand for gardeners.

The garden of the common suburban villa had usually an arrangement of evergreens in front to afford a screen, flower pots intermixed, the back looked out upon a flower garden, beyond which, if space permitted, were fruit trees and shrubs. Many thought it cheaper to buy vegetables than to grow them, but some had a kitchen garden skirting the flower beds and walks, from which it was separated by a hedge or rustic fence. Friendly competitions as to who should have the finest flowers or the earliest vegetables took place amongst these suburban residents, and those who had grounds of sufficient extent used to have what we should call garden parties, which brought flower growers into communication, and they often exchanged seeds, buds and slips. Visitors to London from distant places, by seeing such villa gardens—those of the leading nurserymen and perhaps some of the gardens attached to such mansions as Holland House, Gunnersbury, or Kensington Palace—went to their homes with new ideas, which were afterwards embodied in practice. Intercourse with some of the leading gardeners of London gave a great impetus to Scotch and Irish horticulture at the beginning of this century, for it was a singular fact that though so many Scotchmen who came to the south rose to eminence as gardeners in their native land, before that date there was scarcely a greenhouse or stove to be found of any size, or containing plants worth notice.

A very perceptible defect in many of the flower gardens laid out during the eighteenth century was that they were below the level of the adjacent land. We may see specimens of this old method in some of the London squares yet. This was done with the intention of affording warmth to the plants in the colder months, but it prevented proper drainage, and had not a pleasing effect by any means. Nicol and Loudon recommended the practice of giving a flower garden some elevation, also they advised that within it the surface should not be of one level, but made to wave somewhat. Mason the poet had advised that the whole should be on an incline broken by winding paths; the result was that the higher plants were kept too dry, and the lower were apt to be washed out of the soil. Repton opposed the common practice of planting deciduous shrubs amongst the flower beds for several reasons, and suggested that they should be put along the sides of a garden or on the lawns, but always grouped with evergreens to avoid the appearance of bareness in winter. Abercrombie advocated the round or oval form in the case of small gardens, considering

that straight lines are displeasing to the eye, and on the same principle he disapproved of paths made with angular turns. All gardens of any size, he said, if their shape was regular, should be made to look irregular by having shrubs planted and beds arranged so as to give the idea of extent.

A book entitled the "Florist's Manual," published about 1800 anonymously, but stated to be from the pen of a lady gardener, called attention to a fact which had been scarcely noticed or acted upon—the influence of sunshine upon flowers, and that in many species the date of flowering depends upon the aspect they have afforded them, also the time during which they will continue in bloom. She advised, therefore, that beds should be planned to give the plants a variety of aspects, while for some species it might be advisable to arrange that they should be exposed to the south and east, as being more beneficial than the north and west. This authoress devoted part of her space to the consideration of rock-work, then a novelty, and which had displaced the old-fashioned "knots," which were contrived of earths variously coloured. Early attempts at rockwork were in the direction of piling up large stones in a clumsy fashion, and amongst these many plants were set which in Nature would not be found growing on rocks, but which thrived best on a warm border. One of her suggestions was that bulbous species might be advantageously mixed in beds and borders, so that a succession of different sorts might succeed each other through the summer. Before that it was a usual practice to mass together for show a number of one species, the Tulip for instance, and when they were over the ground looked cheerless the rest of the season. Some gardeners followed for a time another suggestion of hers, that both borders and beds should be so limited in breadth that in working on them every part could be reached without the person having to step upon the mould. But early in this century people were beginning to make the beds larger and more or less rounded. At one time most were narrow, and the principal ones in a garden oblong, though small beds, of all sorts of shapes, were much favoured, especially upon lawns, where, from their being often crowded together, it was necessary to protect them by basket-work of wood or iron. Loudon says that to obtain new figures for beds a kaleidoscope was occasionally employed.

For edgings, Thrift and Box were now displacing the variety of plants that had been tried with more or less success, such as the Daisy, Violet, Periwinkle, Stonecrop, and also the Strawberry, with its runners cut in during summer. What was called the "changeable flower garden," originated by one who had studied the Chinese modes, gardeners found practically inconvenient. By this system the flowers in the beds were changed from time to time, plants being brought for the purpose from a reserve ground as they came into bloom. It was shown by Hogg and Neill that this was not necessary if a sufficiently large number of plants were intermingled in spring, and in arrangement height and colour were kept in mind. Thomas Hogg, who lived at Paddington, was a schoolmaster as well as a gardener, and a successful grower of Pinks, Carnations, Auriculas, and Tulips. The confused method of planting out which had arisen, partly out of a protest against the Dutch artificiality, partly from a natural wish to exhibit the many novelties of last century, gave way to the method of placing plants in rows or circles.

Another great improvement arose when gardeners awoke to the fact that it was of importance to have a good subsoil. This had been deemed of little consequence in the flower garden, where it was not usual to break up the ground as in the kitchen garden. Nicol pointed out that both gravel and clay have disadvantages which do not attach to chalk or loam, and that in making up the beds the character of the subsoil must be considered. He advised that the beds should be occasionally trenched and allowed a period of rest.—J. R. S. C.

CARNATION DR. HOGG.

WHILE the ranks of the Border and Fancy Carnations are annually strengthened by numerous additions, those of the florists' varieties increase but slowly. It is quite natural that such should be the case, for with the latter crossing has been practised for so many years, and by so many skilled florists, that the point of perfection has been very closely approached, and further progress can only be slow; whereas with the former the field has been left comparatively open, and the limits are by no means so nearly reached. Recognising the force of this reflection, it will be readily admitted that in one sense the production of a really superior Bizarre or Flake marks a greater step than the production of a distinct and beautiful Self or Fancy. Hybridisers are, as it were, hemmed in by a circle of high-class varieties, through which it is extremely difficult to break. This may be emphasised in the

important section of Scarlet Bizarres. Here we have a galaxy of brilliant gems, so remarkable for the possession of the many points which go to make up a high-class exhibition flower, that it is not easy to imagine a distinct advance on them, much less to produce it. What improvement is effected is gained at rare intervals. For many years Admiral Curzon ruled the waves of Bizarre-dom, and proved himself to be staunch and true in many a hard-fought struggle; but his star set at the advent of Robert Houlgrave, and the latter may still be said to hold the field, although its position is strongly assailed by two other grand varieties. The first of these, C. H. Herbert, appeared in 1890. It was raised by Messrs. Thomson & Son of Birmingham, and is a flower of great beauty and quality. The second was raised by Mr. Turner of Slough, and exhibited by him at a meeting of the Royal Horticultural Society last year, when it received a first-class certificate. It was named in honour of the head of this Journal. Dr. Hogg, which fig. 23 represents, is a superb variety. It is a large, handsome, well-formed flower, and may be described as a highly coloured Scarlet



FIG. 23.—CARNATION DR. HOGG.

Bizarre, with perfect markings, and a beautifully smooth, shell-shaped petal, very smooth on the edge; the white is also very good. It has a perfect calyx, which has not the slightest tendency to split. It is a most constant flower, and remains fresh for a very long period. Dr. Hogg is a great acquisition to its section, and it may safely be said that in course of time, when more widely spread, it will rank with C. H. Herbert and Robert Houlgrave in general popularity as an exhibition flower.—W. P. W.

ROYAL HORTICULTURAL SOCIETY.

EXHIBITION AND CONFERENCE ON BEGONIAS, FERNS, APRICOTS, AND PLUMS.—AUGUST 23RD AND 24TH.

IN one important respect this fixture of the Royal Horticultural Society was of special interest, for it gave an opportunity of becoming acquainted with species and varieties, both of Begonias and Ferns, which are very rarely to be met with at public exhibitions. Plants and flowers of the best varieties of Tuberosus Begonias that the florists' skill

has produced are seen from time to time; but the old species, from some of which they have taken their rise, are rarely met with. Similarly, many of the best exotic Ferns are frequently on view; but the occasions when a really representative collection of British species and varieties is gathered together are few and far between. With respect to the fruits singled out for special attention, both Apricots and Plums are valuable and popular, and it was unfortunate that owing in great part to the season a representative display of these could not be got together. If there was any disappointment in this respect it must have been amply atoned for by the Begonias and Ferns. The former, both in respect to species and florists' varieties were full of variety and interest, while the Ferns were magnificent. Those contributed from the Clifton Zoological Gardens and Shirenewton Hall collections, with which the well-known name of Mr. E. J. Lowe is associated, were superb, affording in their diversity, beauty of form, and excellence of culture a great lesson, and providing a source of pleasure and instruction to Fern-lovers such as it is not often their good fortune to meet with. It is true that to the general public knowing nothing about Ferns the numberless varieties and sub-varieties may be confusing rather than instructive. They are certainly multiplied to an almost alarming extent; but to those who have familiarised themselves with the types the study of the different varieties is full of interest. Even the apparently formidable barrier of the nomenclature may be mastered, though the uninitiated may be forgiven if they look with something approaching alarm on a plant owning five or six names.

In addition to Mr. Lowe's magnificent contribution, which quite dwarfed the others in its magnitude, Mr. C. T. Druery contributed lavishly from his rich stores, exhibiting abundance of choice forms, while Mr. Wm. Marshall, Mr. H. B. May, and Messrs. W. & J. Birkenhead also showed splendid material. Fern lovers, and indeed the public generally, owe a debt of gratitude to these well-known amateur and trade growers for their displays; many must have wished that such an exhibition could become an annual fixture at Chiswick. Particulars of the principal exhibits are appended.

THE FERNS.

Special prizes were offered for varieties and species of British Ferns, divided into sections according to their character, and amongst these plants were many beautiful forms. The first prize, for ten plumose varieties, was awarded to the collection from the Clifton Zoological Gardens and Shirenewton Hall collections (Mr. E. J. Lowe). These were superb plants. Very noticeable were *Polystichum angulare divisilobum robustum*, a very beautiful form; *P. a. plumosum augustum*, *P. a. inaccessum*, *P. a. bellatulum*, and a grand plant of *Athyrium filix-fœmina plumosum Molyi*. From the same collection came the first prize ten cruciate or narrow varieties, amongst which were *Athyrium f.-f. notabile*, *A. f.-f. cruciferum*, *A. f.-f. ornare*, *A. f.-f. Irence*, *Polystichum angulare Hydra*, *P. a. cruciatum ornandum*, and *P. aculeatum graminoides*, hybrid. Another beautiful group was shown from the same collection in class C, ten varieties of *Athyrium filix-fœmina*. Amongst these were *Arthuri*, *Excellentia*, *decoratum*, *ornamentissimum*, *Stella*, *intercisum*, *prominens*, and *exornatum*. Mr. Lowe won again with hybrids and varieties of *Polystichum aculeatum*, *capitatum*, *plumosocruciatum*, *pulcherrimum*, *pendens*, *abbotta*, *gratum*, *polydactyllum meritum*, and *honorabile* being shown. Yet another victory was gained by him in the class for sixteen varieties. In these the plants were alike remarkable for excellence of variety and culture. *Lastrea filix-mas Padleyi* was a superb plant, nearly 5 feet through, and other grand specimens were *Polystichum angulare centiceps*, *Athyrium filix-fœmina bellatulum*, *P. angulare attractum*, *A. f.-f. crucipennulum*, *Scolopendrium vulgare crispum Kitsonæ*, and *P. a. fascinum*.

The competition for eight varieties produced the same result, Mr. Lowe being easily first. He had *Lastrea filix-mas maritum*, *S. v. crispum fertile*, *A. f.-f. augustum*, and *Polystichum angulare revolvens* in fine condition. Mr. Lowe won again with eight varieties of *Nephrodium* (*Lastrea*) *filix-mas*, which included *abbreviatum*, *gracile*, *crispum*, *paleraceum ovatum*, *p. depauperatum*, *Ellacombei*, and others. A very beautiful group was Mr. Lowe's first prize ten varieties of *Scolopendrium vulgare*, *deleserioides*, *sagittatum grandescens*, *capitellum*, *crispum saccinum*, *marginatum corollarium*, *camulare*, *sagittatum Jonesi*, *crispum pendens* (a form of *robustum* found in Monmouthshire), *jubatum*, and *crispum Willsi*. They were splendidly grown plants. Hardly less noteworthy were the eight varieties of *Polystichum angulare* from him, which consisted of *stipitatum*, *innocuum*, *insignitum*, *latifolium coronare*, *longipinnulum*, *coronum*, *acutilobum fascians*, and *flabellipinnulum*. They were, of course, placed first. The same result had to be recorded in the class for eight crested varieties, and somewhat similar remarks apply, for all were splendid plants. The varieties were *Athyrium filix-fœmina unicum cristatum*, *Polystichum angulare decorandum*, *Scolopendrium vulgare promesitum*, *S. v. accumulare*, *Lastrea paleracea bicornis*, *L. abbreviata cristata*, *P. a. divisilobum cristatum*, and *P. a. galeatum*. For four varieties of Ferns Mr. Lowe won with *Adiantum Capillus-Veneris Lucasi*, *A. C.-v. Lowæ*, *Osmunda regalis cristata* and *Lastrea spinulosa cristata* of Jones. He was only second with four varieties of *Polypodium vulgare*, but won again with four *Adiantums*, the varieties being *Capillus Veneris beatum*, *C. v. dentatum*, *C. v. augustum*, and *C. v. autumnale*. He was also first with eight rugose or muricate varieties, showing *Scolopendrium vulgare muricatum subcrispum*, *S. v. muricato-undulatum*, *S. v. bimarginatum Lyelli*, *S. v. muricatum maritum*, and others. For ten varieties of *Asplenium* he continued a remarkable

series of victories with *A. trichomanes triangulare*, *A. ceterach multifidocristatum*, *A. t. incisum O'Kellyi*, *A. C. muricatum*, and others. Mr. Lowe was again first for sixteen dwarf varieties, having *Scolopendrium vulgare corollarium*, *S. v. corolla*, *S. v. muricatum-reflexum*, *S. v. blandissimum*, *A. f.-f. minimissimum cristatum*, and others.

The first prize for four varieties of *Polypodium vulgare* varieties went to W. Marshall, Esq., Auchinraith, Bexley, who exhibited good plants of *cornubiense semi-lacerum*, *cambricum Prestoni*, and *trichominoides*; he was second with four varieties of Ferns. Mr. C. T. Druery also exhibited many good plants and varieties; he was second with sixteen varieties, any species; he had the best variety of *Scolopendrium vulgare*—namely, *cornutum radiosorum*, and also the best variety of *Athyrium filix-fœmina*, *plumosum Drueryi*. Mr. Marshall received the first prize for the best *Polypodium vulgare* with a beautiful plant of *trichominoides*, and this was also awarded the first prize as the best specimen in the Show. Mr. Lowe was first for the best plant of *Polystichum vulgare* with *inaccessum*, an exquisite form; he also had the best *Nephrodium*, this being the *filix-mas Padleyi* before referred to. The first prize *Osmunda* appeared to be his *regalis cristata*, and the first prize *Adiantum Capillus Veneris beatum*, but the cards did not make this quite clear, and in one or two other cases it was somewhat difficult to follow the decisions, so that an occasional error may have crept in; he had the best *Asplenium* also, this being *Ceterach multifidocristatum*.

Amongst the miscellaneous contributions of Ferns there were several exhibits of much interest. Mr. H. B. May, Edmonton, had a group of small plants, comprising *Athyrium filix-fœmina Howardiæ*, *Lastrea filix-mas linearis*, *L. f.-m. polydactyla*, *A. f.-f. pulcherrimum*, *A. f.-f. superbum*, *A. f.-f. plumosum*, *A. f.-f. Cousinsi plumosum*, *Nephrolepis davalliodes var. multiceps*, *Adiantum elegantissimum*, *Pteris tremula variegata*, *P. Reginae*, *P. Reginae var. cristata*, and many others. A silver-gilt Banksian medal was recommended. W. Roupell, Esq., Roupell Park, contributed a group of *Polystichums*, healthy plants, and many of very large dimensions. Messrs. W. & J. Birkenhead, Sale, Manchester, had a magnificent miscellaneous group, worthy of their reputation, both in its extent, variety, and interest. Amongst the species and varieties represented were *Athyrium setigerum var. Victoriae*, *A. Girdlestonei var. grandiceps*, *A. f.-f. Frizellæ coronare*, *A. f.-f. gracile*, *A. f.-f. curtum multifidum*, *Osmunda regalis cristata*, *A. f.-f. Grantiæ*, *A. f.-f. crispum*, *Polypodium cristatum*, *A. f.-f. conglomeratum*, *A. f.-f. Frizellæ ramo-cristatum*, *Asplenium lanceolatum microdon*, *Asplenium Trichomanes conflurum*, *Osmunda Claytoniana*, *Struthiopteris pennsylvanica*, *Polystichum Browni*, *P. munitum*, *Aspidium nevadense*, *Phegopteris hexagonoptera*, *Asplenium thelypteroides*, *Polystichum angulare Pateyi*, *P. a. plumosum Moly*, *P. aculeatum pulcherrimum*, *Blechnum s. contractum*, *B. s. Mainderi*, *B. s. apiculatum*, *B. s. Aitkenianum*, *B. s. multifidum*, *B. s. crispum*, *B. s. serratum*, *Airey's No. 2*, *B. s. lineare*, *B. s. concinnum*, *B. s. imbricatum erectum*, *B. s. trinervo-coronans*, *Polystichum angulare divisilobum*, *P. a. divisilobum densum*, *P. a. venustum cristatum*, *P. a. imbricatum*, *Jones*, *P. a. divisilobum plumosum*, *P. a. d. decorum*, *Lastrea dilatata crispa*, *L. montana congesta*, *L. f.-m. polydactyla*, *Mills*; *L. f.-m. polydactyla*, *Dadds*; *A. f.-f. Elworthi*, *Lastrea propinqua cristata Barnesi*, *Scolopendrium vulgare grandiceps*, *S. v. kerotoides*, *S. v. crispum robustum*, *S. capitatum*, *S. v. cochleatum multifidum*, and *S. v. crispum fimbriatum*, *Cropper*. A silver-gilt Flora medal was awarded.

A group of considerable interest came from the Clifton Zoological Gardens and the Shirenewton Hall collection. They represented various results of multiple parentage by Mr. E. J. Lowe. For example, two plants were exhibited out of three produced by crossing six varieties of *Athyrium filix-fœmina* together, and one of the prothalli divided into three, the three plants being exactly alike, and in portions of the front showing the characters of all the parents. Examples of *Scolopendrium* crosses were also shown; for example, *undulatum* crossed with *muricatum* and *sagittatum*; *crispum* crossed with *Victoriae* and *muricatum*; *undulatum* crossed with *Victoriae*, *spirale*, and *muricatum*—i.e., a wavy form crossed with a crested, a spiral and a rugose variety. These were inspected with much interest by Fern lovers.

Many first-class certificates were awarded, and the plants thus honoured are referred to below.

FRUIT COMMITTEE.—Present: P. Crowley, Esq. (in the chair), with Messrs. J. Cheal, H. Balderson, F. Q. Lane, J. Smith, W. Warren, T. J. Saltmarsh, J. Willard, J. Hudson, G. Reynolds, A. Dean, G. W. Cummins, G. Sage, W. Bates, and J. Wright.

W. Roupell, Esq., Harvey Lodge, Roupell Park, S.W., sent a collection of Grapes grown in pots, and not commonly seen, but highly flavoured varieties—*Primavis Frontignan*, very rich and pleasant; *Grizzly Frontignan*, also rich; *Purple Constantia*, small, sub-acid; *Dr. Hogg*, not quite ripe, excellent; *Diamond Traube*, round, white, juicy, and sweet, recommended as a good Grape for invalids, being so juicy and refreshing. It was certificated last year (cultural commendation). Mr. Roupell also sent a fine dish of *Lady Sudeley Apples*, very attractive and of good quality, evidently a good late summer Apple (vote of thanks). Mr. Bunyard also showed very fine samples of *Lady Sudeley*, and was accorded a vote of thanks.

Mr. W. C. Leach sent from the Duke of Northumberland's garden at Albury Park a fruiting branch of *Bradley's King Damson* (vote of thanks). Mr. John King, Bandon Hill, Croydon, sent a cluster of *Victoria Plums*, as representative of his crop, which must be enormous

(vote of thanks). Mr. John Watkins, Pomona Farm, Withington, Hereford, sent upwards of forty varieties of Plums; one called Midsummer "Damson" was considered to be a small Plum of no particular merit. Some of the larger Plums were very good, especially Oullins Golden and Kirke's, the whole being representative of the produce of orchard trees (vote of thanks). Messrs. H. Lane & Sons, Berkhamstead, sent a collection of Plums on branches showing the crop—a remarkable one—and the fruits also very fine, especially The Sultan, Belle de Louvain, Prince of Wales, Cox's Emperor, Belgian Purple, and Jefferson. A small silver medal was recommended.

Messrs. Collins, Sons, & Gabriel, Hampton, Middlesex, sent a box of their new Tomato Challenger; also two plants for showing its productiveness. The fruit is medium size, smooth, uniform, globular, bright red in colour, and of good quality. As it was thought to be alike suitable for home use and market, a first-class certificate was awarded.

Mr. Barron placed on the table large dark fruits of the Black Douro Fig, also a fruiting branch showing the great productiveness of the variety. It was received from Mr. Tait, Oporto. The fruits are above medium size, purplish, good, but not particularly rich. It was thought to be a very useful variety, and a first-class certificate was awarded. Fruits of Nebian were also placed on the table, and were of very high quality. This was certificated at the last meeting. A bunch of the Hungarian Grape Voluvna grown in the gardens was placed before the Committee. This variety somewhat resembles Foster's Seedling, but is decidedly richer. Another Hungarian variety, Oreg Tardovany, resembles Mrs. Pearson, and was very juicy, but not quite ripe, and will be examined again. A cultural commendation was granted for a beautiful collection of Apples grown in pots under glass in the Society's gardens. The varieties comprised Ribston Pippin, Cellini, Ecklinville, Yorkshire Beauty, The Queen, Worcester Pearmain, and Lady Sudeley. All were of full size and wax-like in appearance, the last named being very beautiful.

Mr. J. Gibson, The Oaks, Carshalton, Surrey, sent half a dozen specimens of Student Parsnips 3 feet long (vote of thanks); also some enormous bulbs of Sutton's Al Onion, nearly 18 inches in circumference, from seed sown in February (cultural commendation).

Prizes were offered for three dishes of Apricots, but there were only two exhibitors. Mr. J. Miller, gardener to Lord Foley, Ruxley Lodge, Esher, was first with good dishes of Kaisha, Hemskerk, and Moorpark, Mr. Wythes following with Large Early, Shipley's and Moorpark.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair); Messrs. Charles T. Drucry, H. Turner, G. Paul, W. C. Leach, R. Dean, J. Laing, B. Wynne, G. Phippen, and H. Herbst.

Messrs. H. Cannell & Sons, Swanley, sent a splendid collection of Cactus Dahlias. The flowers were fresh, notwithstanding the heat of the day, and bright in colour. Amongst other noticeable varieties were Duke of Clarence (rich maroon crimson), Minor Hoste (dark maroon), Kentish Sun (very bright scarlet), Robert Cannell (magenta, very pretty), and Pride of Swanley, petals white, heavily blotched with bright rose pink. The whole made a most imposing display.

In another tent Messrs. Cannell & Sons had a beautiful, extensive, and interesting display of double Tuberous Begonia blooms. These were set up in triplets with Maidenhair Fern and sprays of Asparagus. The blooms were very fine and varied in type. Some were similar to Hollyhocks in shape, others closely resembled well-grown Tea Rose buds, whilst others showed a similarity to large double Petunias. It is not surprising that this exhibit attracted attention. A row of small Palms and Rex Begonias at the back added interest and effect to the group, whilst in close proximity a small collection of fibrous-rooted winter-flowering Begonias, likewise shown by Messrs. Cannell, was particularly interesting. Among the varieties, Mrs. Falconer is a beautiful rich yellow, and R. B. Parson is a splendid flower, bright pink in colour. Lady Osborne is a charming pink, whilst Rosebud, appropriately named, always excites admiration. Mrs. Lynch is a charming pink flower with fimbriated edges, and E. Wynne is a pure white, well worth growing. A silver-gilt medal was recommended.

Messrs. J. Laing & Sons, Forest Hill, also had a splendid collection of Tuberous Begonias in pots, as well as cut blooms. The flowers of these were exceedingly fine and made a bright display. Among other varieties Earl Cranbrook, Lady Gertrude, Lord Esher, Picotee, Old Gold, and Marchioness of Headfort were conspicuous. This firm likewise had a collection of ornamental-leaved and winter-flowering Begonias. Among the former were Arthur Malet (dark bronze, very fine), Madame Lebocq, a light coloured leaved kind with dark blotches; manicata aurea, a yellow leaved variety; and Bertha McGregor, a beautiful variety with attractive foliage, the latter being adjudged an award of merit. Bouquets and sprays composed of white and coloured Tuberous Begonia blooms were also shown by Messrs. Laing & Son, these making a charming display. Silver-gilt Flora medal.

An extensive collection of ornamental foliage and winter-flowering Begonias also came from the Royal Gardens, Kew. These occupied considerable space and were of an interesting character, inasmuch as they comprised numerous species. Three plants of Begonia Haageana in this collection were very fine, and the varieties of B. semperflorens were well represented. Other noteworthy kinds were B. M. Handy, a dark leaved variety; B. caffra, and erythrophylla. Messrs. Veitch and Sons, Royal Exotic Nursery, Chelsea, likewise sent a collection of ornamental foliage and winter-flowering Begonias. Among the former, Marie Louise (first-class certificate), is an extremely pretty variety, and

the same may be said of a hybrid between B. socotrana and Rex. A garden variety named Novelty was also attractive, although but a small plant was shown. The leaves of this are of a bronzy colour covered with grey spots, whilst the flowers are pink and drooping in habit. A silver Flora medal was recommended.

There were not many entries in the competition classes for Begonias. Mr. W. Marshall secured the first prize for six ornamental foliage kinds, showing Desfontaine, Van der Hecke, Brongniart, Louis Chrétien, Perle de Paris, and Madame Alamangy, the latter being awarded a first-class certificate. Mr. O. T. Hodges, Chislehurst, was first with nine Tuberous Begonias, showing well flowered plants.

A remarkably fine collection of Cape Pelargoniums came from Mr. Hudson, Gunnersbury Park Gardens. The plants were exceedingly well grown, many of them being 4 feet in height, and nearly as much in diameter. Mr. Hudson also showed a splendid plant of Asparagus deflexus in a basket, for which a first-class certificate was awarded. A new dwarf Pompon Dahlia, named Crawley Bedder, was sent by Messrs. J. Cheal & Sons, Crawley, but it did not appear to be specially recognised. Mr. McMillan, gardener to J. Currie, Esq., Trinity Cottage, Edinburgh, staged a collection of early-flowering Chrysanthemums. The flowers were clean, fresh, and, considering the season, very large. The most conspicuous varieties were Edwin Molyneux, Madame Leroy, Mrs. Irwin Clark, Puritan, Madame Desgranges, and Stanstead White. Miss Debenham, St. Peters, St. Albans, also showed a number of Chrysanthemum blooms grown in the open air, these flowers being attractive although small.

Mr. G. Reynolds, gardener to Leopold de Rothschild, Esq., showed plants of a fringed Carnation named Mrs. Leopold de Rothschild. This is a bright pink flower, and an award of merit was adjudged. A collection of Antirrhinums and Pentstemons was staged by Mr. Wythes, Syon House Gardens, Brentford, and a vote of thanks was accorded. Mr. Leach, Albury Park Gardens, showed branches of Tilia platyphylla, for which a first-class certificate was awarded.

Messrs. Kelway & Sons, Langport, staged a large collection of Gladioli, Gaillardias and other hardy flowers, the whole making a most imposing display. A silver-gilt medal was recommended. The Gladioli were particularly fine, three being adjudged awards of merit. These are described below. Mr. T. S. Ware staged a collection of Hollyhocks, Phloxes, Cannas, and other hardy flowers, amongst the latter being Helenium grandicephalum striatum. A first-class certificate was awarded to this variety, and a silver medal was recommended for the whole exhibit. Messrs. Pitcher & Manda, Hextable, Kent, staged a small collection of cut hardy flowers (bronze Flora medal). A collection of cut Roses and Phloxes, staged by Messrs. G. Paul & Son, The Old Nurseries, Cheshunt, made a good display (silver Flora medal). The Roses were bright and fresh, as also were the Phloxes. Conspicuous among the latter were Eclairer (award of merit), Claudot, Iris, Mars, Granville, and Michael Servantes (award of merit). A number of Begonias came from the Botanic Gardens, Cambridge.

Very few Orchids were shown. C. E. Goodheart, Esq., exhibited a freely flowered plant of Cattleya gigas Sanderiana. Messrs. Pitcher and Manda sent Cypripedium magniflorum and C. Wallaertiana pallidum. Baron Schröder, The Dell, Egham, received a first-class certificate for a hybrid Cattleya, which is referred to below.

CERTIFICATES AND AWARDS.

These were extremely numerous, and space can only be found for brief descriptions of the plants honoured.

Scolopendrium vulgare muricatum reflexum (Lowe).—A dense, compact form, deep green. The varietal names sufficiently indicate its distinct characters (first-class certificate).

Scolopendrium vulgare corolla (Lowe).—A dwarf variety, about 6 inches high, very dense in growth and rich deep green (first-class certificate).

Polystichum angulare inaccensum (Lowe).—An extremely beautiful variety, the pinnæ closely overlapping each other, so as to give a Selaginella-like appearance (first-class certificate).

Polystichum angulare plumosum augustum (Lowe).—A noble plumed variety with graceful fronds of a deep sea-green (first-class certificate).

Polystichum angulare Rheapinna (Lowe).—A variety with graceful fronds and close dark green pinnæ, extremely handsome (first-class certificate).

Polystichum angulare divisilobum robustum (Lowe).—A beautiful plumose variety, with finely cut pinnules, bright green (first-class certificate).

Polystichum aculeatum honorabile × (Lowe).—A remarkably handsome species of upright growth, and with the pinnæ somewhat incurved (first-class certificate).

Polystichum angulare attractum (Lowe).—A graceful variety with long fronds, the pinnæ closely alternate, the pinnules sharply pointed (first-class certificate).

Scolopendrium vulgare crispum pendens (Lowe).—A magnificent Hart's Tongue with crisped fronds, reflexed and drooping, dense and compact in growth (first-class certificate).

Polystichum angulare longipinnulum (Lowe).—A graceful variety, the pinnules long and very closely set, bright green (first-class certificate).

Asplenium Ceterach ampliandum × (Lowe).—A distinct hybrid, A. Ceterach × A. C. ampliandum, with rounded pinnæ (first-class certificate).

Pteris serrulata cristata pendens (Lowe).—A very distinct and graceful form, with long pendent crested fronds (first-class certificate).

Athyrium f.-f. setigerum Victoriae (Birkenhead).—A cross with narrow pointed pinnae, very distinct (award of merit).

Nephrolepis davallioides var. *multiceps* (May).—A graceful variety with forked pinnae, light green (first-class certificate).

Pteris Regina (May).—A variegated species in the way of *P. Victoriae*, but with a lighter edge, and generally brighter in colour (first-class certificate).

Pteris Reginae var. *cristata* (May).—A crested form of *Reginae*, in this respect quite distinct, and undeniably beautiful (first-class certificate).

Pteris tremula variegata (May).—A very distinct and beautiful variegated variety that should become popular (first-class certificate).

Adiantum elegantissimum (May).—A loose growing graceful feathery form (award of merit).

Athyrium filix-femina superbum pereristatum (Druery).—A very beautiful variety with laciniated pinnules, giving it a soft and fleecy appearance (first-class certificate).

Athyrium filix-femina rotundato-cristatum (Druery).—A very distinct variety with crested pinnae, and roundish oblong toothed pinnules (first-class certificate).

Laelio-Cattleya Baroness Schröder (Baron Schröder, Egham).—This is a hybrid between *Cattleya Trianae* and *Laelia Jonghiana*. The sepals and petals are blush, deeply veined with rosy carmine. The lip is frilled, and is of the same colour as the sepals on the edge, paler as the throat is approached, and deep buff in the throat (first-class certificate).

Begonia Madame Alamangy (Mr. W. Marshall).—An exceedingly attractive ornamental leaved variety. The leaves are medium size, silvery grey colour with bronzy green centres, and margined similarly (first-class certificate).

Carnation Mrs. Leopold de Rothschild (Mr. Reynolds).—A fringed variety of a bright pink colour, and sweetly scented (award of merit).

Begonia Bertha McGregor (Messrs. J. Laing & Son).—A useful decorative variety with serrulated leaves, silver-grey and bronzy-green in colour. The under sides of the foliage are green with red ribs, the stems also being red and hairy (award of merit).

Begonia Picotee (Laing & Son).—An edged variety that has been described previously (award of merit).

Begonia Lord Esher (Laing & Son).—A beautiful double variety, with large bright scarlet blooms (award of merit).

Begonia Lady Gertrude (Laing & Son).—A splendid variety when fully expanded. Flowers large, very double delicate pink with white centre (award of merit).

Begonia Earl Cranbrook (Laing & Son).—A grand double variety, rich scarlet (award of merit).

Tilia platyphylla (Mr. W. C. Leach).—This is a very fine Lime, the branches shown having leaves fully 9 inches in length and 6 in width (first-class certificate).

Asparagus deflexus (Mr. J. Hudson).—A beautiful basket of this fine species was shown. It is a slender, drooping species (first-class certificate).

Coleus Distinction (Mr. J. A. Morris).—A very distinct variety of a shrubby character, the leaves and stems being nearly as dark as *Perilla nankinensis* (award of merit).

Gladiolus Mr. Hobborne (Messrs. Kelway & Sons).—A flower of gigantic proportions, salmon pink colour, with a purplish magenta blotch in the throat (award of merit).

Gladiolus Mrs. McAlister (Kelway & Son).—An attractive flower of a lemon yellow colour with magenta stripes in the throat (award of merit).

Helenium grandicephalum striatum (T. S. Ware).—An exceedingly attractive variety with flowers about 2 inches in diameter. The disc is maroon and golden, the petals rich red striated with yellow (first-class certificate).

Phlox Bacoile (Messrs. G. Paul & Son).—A large flower, purplish magenta in colour, and produced in fine trusses (award of merit).

Phlox Eclaircur (G. Paul & Son).—An attractive variety with large trusses of rich magenta flowers, light coloured at the base of the petals (award of merit).

Phlox Michael Servantes (G. Paul & Son).—A white variety with a bright rose pink centre (award of merit).

Phlox Le Soleil (G. Paul & Son).—A bright rose pink variety, the base of the petals being lighter in colour than the other portions (award of merit).

Gladiolus Private Secretary (Kelway & Sons).—A beautiful variety with rose shaded carmine flowers, very distinct yellow lip (award of merit).

Begonia multiflora L'Avenir (Vilmorin).—A dwarf growing tuberous variety with small bright red double flowers. An attractive bedding sort (award of merit).

Begonia Louis Robert (Vilmorin).—A compact tuberous rooted variety bearing flattish blush pink semi-double flowers (award of merit).

Begonia semperflorens var. *Princess Beatrice* (Sutton & Sons).—This variety was growing in a bed in the gardens of the Society at Chiswick. It has a dwarf, spreading habit, and bears rather small, blush pink flowers, similar in shape to the type (award of merit).

Begonia Madame Louis Urban (Vilmorin).—A dwarf variety, producing trusses of small rose pink blooms (award of merit).

Begonia rosea multiflora.—A dwarf, free flowering variety, suitable for bedding. Flowers small, double and light pink in colour (award of merit).

Tomato Challenger (Collins & Gabriel).—Fruit of medium size, smooth, uniform, globular, bright red in colour, of good quality, and a heavy cropper (first-class certificate).

Fig Black Duro (R.H.S. Gardens).—Fruit above medium size, purplish, good, but not particularly rich; very productive (first-class certificate).

THE BEGONIA CONFERENCE.

There was but a moderate attendance at the Begonia Conference, which was held in connection with the above Exhibition on Tuesday, Aug. 23rd. The chair was occupied by Mr. H. J. Veitch, F.L.S. Although comparatively small the audience was most attentive, and obviously appreciated the excellent lectures delivered. The Chairman opened the proceedings with an admirable address. His remarks on fertilisation were most interesting, the subject being dealt with at some length. Among other things Mr. Veitch remarked that the object of hybridisers was to obtain a race of sturdy plants capable of withstanding the climate of this country. In this respect they had been fairly successful. Difficulties, however, were not uncommon. The recently introduced varieties, John Heal and Winter Gem for example, had as yet produced no female flowers, whilst in the variety *Adonis* female blooms predominated. Regarding the number of species of Begonias Mr. Veitch observed that there were no less than 350 kinds known to science, but probably of these not more than 150 species were cultivated, and this number only in botanical gardens. Notwithstanding this there was a wide field open to hybridists, and he hoped that even better results would be obtained. As to the geographical distribution of Begonias, it was a notable fact that not one came from Australia, and only about a dozen from Africa. The first tuberous Begonia cultivated in this country came from Peru in 1845, and it was a species of which hybridisers should not lose sight. Mr. Veitch also dealt with the history of Begonias generally in an interesting manner.

Mr. W. Watson of the Royal Gardens, Kew, a well-known successful hybridiser, gave a descriptive account of "Cultivated Species of Begonias," illustrating his remarks with figures and plants of the kinds mentioned by him. Mr. Watson's lecture was brief and to the point; he obviously purposely avoiding as many technicalities as possible, which are apt to prove tedious to an audience.

Mr. J. Laing of Forest Hill next discoursed upon "Tuberous Begonias," and being a recognised authority his remarks were listened to with much interest. After referring to the historical portion of his subject Mr. Laing remarked that he commenced hybridising Begonias in 1875. The following year the results were not very noteworthy, but in January, 1878, he sowed seeds of sorts which he had very carefully fertilised. The results of that sowing far exceeded his expectations, inasmuch as he was that year awarded a gold medal for his Begonias, and many first-class certificates for named varieties. Encouraged by this he secured the varieties *Queen of Whites* and *Henderson's White Queen*, and the second season from that date effected no less than 161 crosses. In fertilising the best types only were used, size, shape, and colour of the flowers, as well as habit of the plants being the aim of the hybridiser. Double varieties were much more difficult to obtain, the pollen being less plentiful than in the single kinds. Mr. Laing went on to say that his varieties of to-day showed a marked improvement upon those of previous years. Hitherto the flowers always drooped; now the majority of them were erect. Those, too, that obtained first-class certificates five years ago would not now merit attention. As to the uses of Tuberous Begonias the double varieties were best adapted for pot culture for the embellishment of conservatories, whilst the single kinds were, and should be, extensively used for summer bedding. Rain or shine they were always attractive, flowering continuously throughout the summer. For bedding purposes one-year-old seedlings were the best, and these should be raised early in the spring.

In his nursery the seed was sown early in January, as the seedlings were not only thus stronger by bedding out time but were not so liable to damp off, as they are apt to do later in the year. The seed was sown in shallow pans and placed in a temperature of 65° or 70°, and when large enough were pricked out into other pans and grown in a similar temperature until the middle of May, when they were hardened off and planted on the second week in June. According to his experience the tubers degenerated after they were four years old, hence it was important to keep up a stock of successional young plants.

Mr. H. Cannell was to have given a paper on "Winter-flowering Tuberous Begonias," but as this will be published with others in the Society's journal, it was decided not to read it at the Conference. Mr. Cannell, however, gave a brief lecture, remarking that it was as essential to have Begonias at midwinter as in the summer. The winter flowering kinds, he said, were as easy to grow as Zonal Pelargoniums, and succeeded well in soil that suited the last mentioned class of plants. Cuttings of the fibrous-rooted kinds should be inserted about midsummer, and then the plants were in excellent condition for flowering during the winter. The paper on "Rex Begonias," by Mons. Bleu, was taken as read.

Dr. Masters proposed a vote of thanks to the lecturers, which concluded the afternoon's proceedings. On Wednesday a Conference on Apricots and Plums was held; Dr. Hogg presided, and papers by Mons. Jamain, Mr. T. Francis Rivers, and Mr. J. Smith were read. The proceedings will be referred to in our next issue.



EVENTS OF THE WEEK.—There are several important Shows to be held during the ensuing week. To-day (Thursday, August 25th) there are Exhibitions at Newcastle, Droitwich, Kenilworth, and Leighton Buzzard, the first being continued on Friday, and Kenilworth on Friday and Saturday. On Friday, August 26th, Sandy Show takes place, also the great Exhibition of Fruit at the International Horticultural Exhibition, Earl's Court, this being continued on Saturday. A gardeners' dinner will be held in connection with the latter at 5 P.M. on Friday. On Saturday, August 27th, the Mosley and District Paxton Society's Show will be held, and on Monday, the 29th, Cresswell Exhibition takes place. On Tuesday and Wednesday, August 30th and 31st, the Brighton and Sussex New Horticultural Society will hold a Show at Brighton, and on the 31st an Exhibition will be held at Eastbourne. On Thursday, September 1st, the Royal Oxfordshire Autumn Show takes place at Oxford.

— **THE WEATHER IN LONDON.**—The rain prognosticated in our last note quickly came, and towards the end of last week there were several heavy downfalls, which, although somewhat retarding harvesting operations, doubtless proved beneficial to pasture. The 21st, 22nd, and 23rd proved to be very hot and sunny; but there were sharp showers towards the close of Tuesday. At the time of going to press the barometer, which had showed a slight depression for a day or two previously, is steady. The weather is close and warm though somewhat cloudy, and the wind is westerly.

— **MESSRS. F. MILLER & Co.,** 267, Fulham Road, London, S.W., inform us that their tender has been accepted for the supply of bulbs (Hyacinths, Tulips, Crocus, Narcissus, &c., &c.) for planting in all the London parks, squares, and gardens of the London County Council. They also state that both Lincolnshire and Dutch grown bulbs are better this season than they have been for the last few years.

— **AUSTRALIAN PLANTS AT THE WORLD'S FAIR.**—The World's Fair Commission of New South Wales has decided to send to Chicago for exhibition in the horticultural department of the Exposition the following typical representatives of Australian vegetation and flora:—Tree Ferns, Staghorn Ferns, Birdsnest Ferns, Todea, Macrozamia of two distinct kinds, gigantic Lilies, Rock Lilies, and Grass Trees.

— **HEAVY CURRANT CROPS.**—If Mr. Bowman (page 146), had stated the size of his bushes, no doubt many readers, like myself, could better judge whether his crops were extraordinary or not. We have had very heavy crops of Raby Castle and Red Dutch Currants, but did not weigh the crop of a single tree; although I was rather surprised one day when I found so many left after the woman had gathered 12 lbs., and this on a medium-sized bush.—A. J. L.

— **THE WELSH POPPY.**—I find the flowers of this Poppy last much longer when the plants are growing somewhat in the shade than when they are in the sun; indeed, they are the first to flower, and certainly the last. Planted on a rockery where some shade is obtained this Poppy really becomes a nuisance if strict attention is not paid to pulling up promptly the seedlings not required. The early flowers are useful, but are little thought of when those of the Iceland variety come in a little later on.—E. M.

— **BOUVARDIAS AS BEDDING PLANTS.**—It is very seldom that Bouvardias are used as bedding plants, but with very little trouble they may be employed with fine effect. Among the many fine and highly coloured beds of various plants in the Royal Horticultural Society's Garden at Chiswick is a circular one of Bouvardias, which attracts considerable attention by its fragrance and the purity of its flowers. The centre of the bed is of B. Humboldti, covered with flowers, and surrounded by a ring of Alfred Neuner; the edging is blue Lobelia. The old plants when taken up in the autumn should be cut back and potted. Early the following year they require potting again, and beyond protection from frost will give little trouble. They may be planted out with the rest of the summer bedding plants, and with an occasional watering will look well.—C. K.

— **GARDENING APPOINTMENT.**—Mr. Edmund Petty has succeeded Mr. A. Barker as head gardener to the Earl of Dunraven at Adare Manor, Co. Limerick.

— **CHANGE OF RESIDENCE.**—Mr. Charles Turner, gardener to J. B. Firth, Esq., late of Barningham Hall, Norfolk, has now taken charge of the gardens at Idsworth House, Hants, with Mr. J. B. Firth.

— **DEATHS OF TWO FRENCH ROSARIANS.**—Much regret has been caused amongst French Rose growers by the deaths of two prominent rosarians—namely, Messrs. Jean Ketten and M. Jacques Vigneron. Both were skilful growers, and had raised many varieties.

— **BOTANICAL DIAGRAMS.**—Coloured botanical diagrams are being issued by the Society for Promoting Christian Knowledge, that should prove useful for schools and lectures. Eighteen have, so far, come to hand. They are well printed on strong paper, and fitted with eyelets for suspending.

— **CARNATION LADY WANTAGE.**—This beautiful white self, which was honoured at the National Carnation Society's Show on July 26th, was raised from a packet of mixed seed by Mr. William Badcock of Reading. He is well known as a skilful Auricula grower, but not as a Carnation man, only growing a few plants in his garden, and was, therefore, fortunate to have such a choice variety amongst them.

— **JUNE FROSTS.**—The Rev. H. A. Boys writes to the "Meteorological Magazine":—"I made up my table of frosts for the first half of 1892 too soon; for June added one to the list of frosts in the shade, and no fewer than five to those on the grass. These were as follows:—31° on 18th and 30th; 30° on 13th; 27° on 14th; and 24° on 15th on grass, and 30° under shelter, with effects on flowers and vegetables truly disastrous. Thus the first six months of 1892, being 182 days, gave seventy-six frosts under shelter, and 112 frosts on grass."

— **LILIUM TIGRINUM.**—In one of the beds at Rede Hall, Burstow, edged with the tall variegated Grass, is a big mass of Tiger Lilies, which have been grown in the same spot for thirteen years, having been lifted and replanted, and some fresh soil added to the bed, only twice in that time. When I saw the mass the other day, probably 10 feet across, the first blooms were just expanding, and by the time this note appears in print the bed will be in superb bloom. Mr. Cottle, the excellent gardener, informed me that whilst this Lily did so well, candidum and auratum would not grow at all. The soil is very stiff.—D.

— **THE EFFECT OF JAPANESE GARDENS.**—"No effort to create an impossible or purely ideal landscape," says Mr. Lafcadio Hearn, "is made in the Japanese garden. Its artistic purpose is to copy faithfully the attractions of a veritable landscape, and to convey the real impression that a real landscape conveys. It is, therefore, at once a picture and a poem; perhaps even more a poem than a picture. For, as Nature's scenery, in its varying aspects, affects us with sensations of joy or of solemnity, of grimness or of sweetness, of force or of peace, so must the true reflection of it in the labour of the landscape gardener create not merely an impression of beauty, but a mood in the soul."

— **ST. ANNE'S-ON-THE-SEA FLORAL AND HORTICULTURAL SOCIETY.**—The second annual Show of this Society was held on Wednesday afternoon and evening in the Mission Room, St. Anne's. There was a very fine collection of exhibits in all the classes, and the Judges tersely described it as "a gem of a show." The proceedings were formally opened by Mr. J. Wainwright, and Mr. Whitham, Mr. Holt, and Mr. Peers also spoke. There was a large attendance of visitors during the day, and all expressed themselves as much pleased with the fine display of flowers, fruit, and vegetables.

— **INDIAN CORN.**—There is nothing absurd in the idea that the removal of the tassel from Indian Corn should increase the crop, provided enough were allowed to remain to fertilise all the ears. The development of the floral organs of a plant is a great strain on its vitality, and the strength saved might be diverted profitably, it would seem, to the development of the fruit. Experiments on this point, however, have given varying results, and some tests lately made at the Cornell Station show neither loss nor gain in Corn production. It was found, however, that the pollen and anthers in an acre of Corn contained 6.01 pounds of nitrogen, or an amount equal to that in a liberal application of a good commercial fertiliser.—[C. J. den and Forest.]

— HONEY AND FLOWERS.—On the road from Khandala to the famous Cave of Karli, in India, says Miss North, in her recently published "Recollections of a Happy Life," she came upon "a splendid tree of *Jonesia Asoka* full of orange flowers and delicate leaves. The priest of the temple found me one fine flower growing through a honeycomb full of honey which had been built round its stem. This was a very curious thing." She adds: "Did the buds push their way through the honey and wax, or was the thing built quickly round them? I never satisfied myself which was the first perfected."

— THE GREAT VINE AT MANRESA HOUSE, ROEHAMPTON.—I read with special pleasure the note of "A Countryman" on this recently, and it has been my farther privilege since doing so to see the famous Vine. It is not my intention to describe it, except to say that the Grapes, some 840 bunches, were ripe when I called, and a fine pomological picture they presented—a piece of successful gardening practice that deserves, as it has had, the highest possible praise. The hint thrown out by your correspondent that such a triumph of cultural skill may be thought worthy of a Veitch Memorial medal is well worth acting upon. It would be a fitting recognition of Mr. Davis's skill.—J. B.

— PRIZE CARNATIONS IN A COTTAGE GARDEN.—About a week ago I received a circular from Mr. Joe Edwards, 44, Herbert Street, Blackley, Manchester, intimating that his Carnations and Picotees would be in perfection from the 19th to the 24th. On Sunday afternoon I availed myself of the invitation, and was wonderfully struck to observe that such grand flowers could be obtained within two and a half miles of Manchester on the east (the worst) side. The day previous he had won several prizes amongst some of the best growers in England, both at Birmingham and Manchester, and all out of a cottage garden. His collection contains a selection of the best varieties in each class of both Carnations and Picotees, but the selfs are mostly of his own raising, and are far ahead of anything I have seen in the way of Clove Carnations. They embrace almost every shade of colour that can be produced in the Carnation.—JAMES PERCIVAL.

— BARNARD CASTLE.—The forty-ninth annual Show, promoted by the Barnard Castle Floral and Industrial Society, was held in the Castle grounds. The weather in the morning was of the most wretched description. During the afternoon, however, the day brightened, and became very fine. The entries were equal to last year's Show, and considering the late season of a very high order. The stove and greenhouse plants were a capital show, and brought several fresh exhibitors. In the open classes the following were the principal prizewinners:—Mr. Jas. Tullet, Raby; Mr. Wm. Boulger, Rokeby; Mr. Wm. Coulthard, Barnard Castle; Mr. George Finlay, East Layton; Mr. W. Mason Startforth; Mr. George Danby, Yarm; Mr. J. F. Grainger, Fence Houses; Mr. Robert Moore, Fence Houses; Mr. J. Marshall, Startforth; Mr. John Howe, Mr. R. J. Knaggs, and Mr. Jos. Howe.

— PHENOMENA OF PLANT LIFE.—An interesting paper on this subject was recently given by Mr. John Haigh before the members of the Walkley (Sheffield) Amateur Floral and Horticultural Society. In the course of his remarks he referred to the marvellous work performed by vegetation; the usefulness of forests; the distribution of plant life on the globe, from the red snow plant existing in the arctic regions to the mighty natives of the tropics. He touched on the benefits derived from growing plants in rooms; gave examples of plants yielding a considerable quantity of ozone; mentioned Alpine plants; and contrasted the vegetation of temperate and tropical zones. He then went on to describe in a graphic manner the seed and its functions, the work of the leaves, as well as the chemical changes which take place in the cells; how the various shapes of the cells of plants were caused, and the different kinds of wood produced; also the green colouring of plants. Consideration was given to roots and their functions, and how they absorbed food. The amount of water in the constitution of plants was referred to, a few examples of the various quantities in different plants being given. Mr. Haigh then called attention to the nature of plant cells, and the function of the stomata of leaves; also to the evaporation taking place from plants, the various kinds of inflorescence, and the types, shapes, and colour of flowers. In describing the production of seed, he explained why in most cases it was so abundantly given; pointed out its infinite variety of size, and its numerous benefits to mankind. The colours of fruits, the outside structure of seeds, nuts, &c., claimed some reference, and he concluded with touching upon microscopic, epiphytal, and parasitic plants. A hearty vote of thanks was accorded Mr. Haigh for the instruction and interest he had compressed into his paper.—E. D. S.

— TRADE EXHIBITS AT SHOWS.—May I be permitted to suggest that it would be a great convenience to visitors at horticultural shows and increase the business of the trade exhibitors, if those in charge of such exhibits were to wear a badge bearing the names of their respective firms? I have often myself found difficulty in identifying trade representatives when I have been wishing to give orders, in fact have sometimes been unable to do so, and what has affected me must also have affected others. It not unfrequently happens that those in charge of exhibits are not near their stands, indeed may be in another part of the Show altogether, and in such instances especially it would save would-be customers considerable trouble if they could "spot their man" wherever they met him. Such a badge as I suggest might be a neat circular leather one such as officials of shows wear, and no one, either principals or representatives, need think it derogatory to wear it.—HON. SEC. [The suggestion of our correspondent, who is an ardent amateur and admirable official, appears worthy of consideration.]

— THE HERB SWEET MACE.—A correspondent, whose name we forget, sent us in the spring a small offset of the herb that is known as Sweet Mace, with a request for its botanical name. The offset was planted, and now that flowers are produced the plant is identified as *Achillea serrata*. We are informed that it is grown as a culinary herb in gardens in the North of England, and that a "few sprigs of Mace" are often asked for by cooks. The mace of commerce, we may add, is the seed-coat or aril of the Nutmeg, and is in the form of a lacerated membrane. When fresh it is of a blood red colour, but becomes brown on drying. This is the most aromatic part of the fruit, and contains essential oils. It softens in the mouth, but does not melt; its taste is warm, aromatic, fragrant, and similar to a mixture of Cinnamon and Cloves, but more intense. We cannot detect any resemblance to the flavour of the true Mace in the so-called "Sweet Mace" of gardens. If our correspondent sees these lines he will perhaps be good enough to inform us for what special purpose the herb is used.

— MR. OWEN'S NURSERY AT MAIDENHEAD.—While at Maidenhead recently a *Journal* representative walked up to Castle Hill and called at Mr. Owen's nursery there. He found the head of the establishment, who is evidently a believer in the old adage that if you want a thing done well you must do it yourself, at work amongst his *Chrysanthemums*, and his skill was evidenced in the splendid condition of the whole collection. About 4000 plants are grown, and it is very difficult to imagine better pictures of robust, vigorous health. There are several hundred seedlings, amongst which are many varieties of great promise. All are remarkable for sturdy growth and splendid foliage. With flowers of corresponding quality there will be something to be proud of. Such encouraging results have attended Mr. Owen's previous experiments in seedling-raising that the large scale of his present operations in this direction can hardly be wondered at. There is also a fine collection of *Begonias*, very noteworthy for their compact, self-supporting habit; and, amongst many other features of interest, a beautiful display of Ivy-leaved *Pelargoniums*. Mr. Owen has achieved fame in the improvement of this valuable class, and the two magnificent varieties, *Souvenir de Charles Turner* and *Beauty of Castle Hill*, speak eloquently of his skill and judgment. All through the nursery the stock is in fine condition, and may be inspected by anyone with pleasure and profit.

— FLOWERS FOR PERFUME.—Once more the musical cry of the Lavender girl is heard in the London streets, says "The Morning," and the fields of Mitcham, Carshalton, and Beddington are yielding their fragrant harvest. The Lavender farms of Mitcham constitute one of the oldest industries of that part of the country, and in the middle ages the parish was heavily tithed in consideration of the profits derived from it. Although the Lavender is in reality a Mediterranean herb, it is nowhere more profitably grown than in England, the quality of the attar extracted from the plants in Surrey, parts of Hertfordshire, and in East Kent being far superior to that produced in any other part of the world. The most delightful form of agriculture might be considerably extended, as we are compelled to import annually foreign essential oils, which might just as well be produced in the country. Nor is there, so far as we can see, any reason why the Surrey farmers should not add to their plantations of Lavender, Thyme, and Mint, Rose gardens, with the object of producing the attar for which we annually pay large sums to the growers of Bulgaria, Persia, and India. The industry is a most lucrative one, and in no country does the Rose attain greater perfection than it does in our own.

— **MAIDENHEAD SHOW.**—With reference to your remarks in last week's issue concerning the staging arrangements for groups at this Show, I, as an exhibitor, heartily endorse them, for with me, and I believe with most of the exhibitors, the plan adopted has been most severely criticised, it being not one-half so popular or effective as the ordinary general way of grouping. Besides this, the accounts for last year's expenses include "£23 for staging, carting of same, &c.;" a sum, almost the whole of which is, in my opinion, really wasted, and which might be much better utilised either in giving extra prizes or in maintaining the old ones, for I notice this year a dropping off in the value of the prizes in certain classes. I trust the Committee will take note of your comments, and that before another show is held we shall see Maidenhead as much "up to the times" in effective arrangements as it certainly is in the quality of the exhibits.—**EXHIBITOR.**

— **TOMATO CHALLENGER.**—Yet another new Tomato, although not so new, as it received honourable mention at the Guildhall Fruit Show, and the variety is being sent out by Messrs. Hurst & Sons. Mr. Arthur Collins (Collins & Gabriel) invited me some six weeks ago to go and see this Tomato growing in their houses at Hampton. I could not get there until a few days since. There is some sense in going to see a variety that is represented by about 3000 plants, all in abundant fruit, filling house after house, for there are two houses 124 feet long and 12 feet wide, quite full of plants, trained up the roof, and in the centre bed, and some five or six shorter houses full also. This Tomato is a splendid cropper; the fruits are produced in clusters all up the stems. They are both deep and round, of rich colour, and literally a Plum with the breadth of an Apple, indeed the deepest, and for its size heaviest fruit I have seen. It also has capital flavour. For market purposes Challenger could hardly be excelled, as it is just the size to suit the market taste, for large fruits will not do at all.—**A. D.**

— **GROWING MANY VARIETIES OF STRAWBERRIES.**—There are other reasons for growing many varieties of Strawberries than those stated by the Editor on pages 99-100. Strawberries are so much the children of circumstances that we cannot depend on any variety giving a satisfactory crop every year. Early bloomers may be destroyed by frost or stormy weather, while all varieties are liable to be destroyed by heavy and continuous rains. One season may give us a heavy crop of earlies, while the late and intermediate varieties may be destroyed. Some Strawberries grow and yield large crops with careless cultivation, while others will not bear well unless with the greatest care in all the details of culture. I believe this care, or carelessness, as the case may be, has more to do with the result of a crop or no crop than favourable or unfavourable soil or locality. I have grown a hundred varieties of Strawberries at one time beside seedlings, and the foregoing are my impressions. There is another important thing in connection with Strawberry growing. Stout fruitstalks that stand erect and, as some say, carry the fruit above the soil, are desirable, but I doubt their existence, as all Strawberries come to the ground with a heavy crop. Short fruitstalks beneath heavy and healthy foliage escape frosts, the erect ones do not.—**W. T.**

— **HUYTON AND ROBY—WITH WHISTON—HORTICULTURAL SOCIETY.**—The Huyton and Roby Horticultural Society, which at one time was one of the leading societies in the Liverpool district, but which has been abandoned for a number of years, is about to enter upon a new lease of usefulness by holding a Chrysanthemum, plant, and fruit Show on Nov. 12th. Recognising the valuable work done by the cottagers, it is including the important colliery district of Whiston, where cottage gardening is carried out in an excellent manner, and has been promoted for the purpose of stimulating still further the growth of flowers, fruits, and vegetables, and more especially for the encouragement of cottage gardening and the cultivation of allotment gardens. It is not intended to interfere with any other society; the date of exhibition and all other arrangements are fixed so as not to clash with any local Show. Coming to the work of electing officers and making all necessary arrangements, the Committee do not contemplate holding an outdoor Exhibition this year, but prizes will be awarded to those cottagers having the best kept vegetable garden and the best kept mixed garden, the work of judging being commenced on Aug. 22nd. About £50 will be awarded at the autumn Show, there being good prizes for Chrysanthemums in pots, miscellaneous plants, and fruit, both for professional gardeners, amateurs, and cottagers. The principal class is for twenty-four blooms, distinct, twelve Japanese and twelve incurved. In addition there are special prizes—for ladies only—for vases or epergne decorations. Lord Derby

has kindly promised to become President. In addition there is an excellent list of patrons. Geo. G. Musson, Esq., Holly House, Roby, is an ideal Chairman; J. G. Kitchen, Esq., Fernwood, Huyton, and Henry Middlehurst, Esq., Sandfield, Archway Road, Roby, are Hon. Treasurers; and an excellent Secretary has been found in Mr. J. Tnaffe, Bay Tree Cottage, Roby. A strong Committee has also been secured, and the Huyton and Roby Show promises to occupy once again a foremost position.—**R. P. R.**

— **OUTDOOR EARLY PEACHES.**—These have been wonderfully good this season. On the 25th of July we gathered the first fruit of Alexander from a south wall, and five days later from a tree growing against a west wall, both two-years-planted trees. The former gave us five dozen medium sized highly coloured fruits; indeed, the manner in which they coloured was a surprise, as the weather was none too bright. The flavour of this variety is only second-class, but being so early this is not considered so great a drawback as it would be otherwise. On August 3rd we gathered Early Louise from a south wall, and Hale's Early the following day from a similar position. The former was of good size and highly coloured and of much better flavour than Alexander. I consider this one of the best early Peaches for outdoors. Hale's Early is the best in quality of the three; the fruit swells to a good size and is exceptionally well coloured; in fact, with us it puts on intense colour, more than any variety, except, perhaps, Bellegarde, which is now fast approaching the ripening stage. Waterloo is said to be the best of the early varieties. I hope to prove it next season; one tree of this sort has not yet arrived at a fruiting stage.—**E. MOLYNEUX.**

— **A SCOTTISH SHOW DISPUTE.**—An unfortunate dispute has arisen between Messrs. Cocker & Son, the well-known Aberdeen Rose growers, and the Committee of the Royal Horticultural Society of Aberdeen. Disapproving of a new departure in the policy of the Society Mr. Cocker, sen., who had been one of the directors, resigned and intimated the withdrawal of his usual contribution towards the expenses of the Show. Thereupon the Committee refused to accept an exhibit from Messrs. Cocker & Son at their show. The firm brought an action against them to compel them to do so, but it was shown that a rule existed that all exhibitors must be members and pay their subscriptions by August 1st. The fact of Messrs. Cocker & Co. not having paid their membership subscription by that date caused the verdict to go against the pursuers. It would be foolish to presume that Messrs. Cocker & Son did not intend to pay their subscription; as a matter of fact they offered it a few days later, but it was then refused, and it appears clear that the Committee took shelter in a technicality. We agree with the Sheriff that it was a pity such a case should have been taken into court.

— **FRUIT PROSPECTS IN BEDFORDSHIRE.**—Duchess of Oldenburg, Kerry and Wyken Pippin, also Court-Pendû-Plat Apples, taken as a whole, are about half a crop; Blenheim Orange, Fearn's Pippin, Jolly Beggar, and Schoolmaster are carrying good crops; Lord Suffield and the Codlin type are cropping well. Pears as bush trees are very thin of fruit, except Louise Bonne of Jersey, Bon Chrétien (Williams'), and Beurré Clairgeau; but on walls they are better. Plums generally are a very thin crop, Victoria being the best; but on walls Rivers' Early Prolific and other culinary kinds, and also Green Gages, are carrying fairly good crops. Apricots are thin generally. Peaches and Nectarines on unprotected walls are carrying full crops, but they are ripening later than usual, and the fruit is rather smaller, owing no doubt to the cold and cloudy weather in July. Cherries are not much grown; they are about half a crop, rather small. Walnuts and Filberts are generally good. Bush fruit—including Gooseberries, Currants, and Raspberries—are plentiful. Gooseberries and Currants have been very much infested with the caterpillar, which has given us much trouble to keep under; the bushes were so bad that we had them well sprayed with the garden engine, using clean water, following quickly with a rather strong dressing of soot and lime under the bushes, giving a good dusting round the stems, so as to prevent them crawling up again; this plan seemed to effectually destroy them. Strawberries have been good and plentiful; Laxton's Noble was the first to ripen on the 9th of June in a very open and exposed situation, finishing the first week in August with Oxonian and Laxton's Latest of All, the latter a very good Strawberry of the British Queen type and flavour; A. F. Barron, Jas. Veitch, and Laxton's Commander (this variety has very strong flower stalks, supporting the fruit well above the ground). I have no outside experience of John Ruskin, but it is a good forcer.—**G. R. ALLIS, Old Warden Park, Biggleswade, Beds.**



NOMENCLATURE OF BIGENERIC HYBRIDS.

THE increasing number of bigeneric hybrids, particularly between *Lælia* and *Cattleya*, makes it necessary to ask if some simple distinctive name cannot be found for them. Several *Lælio-Cattleyas* have appeared this year, and such remarkable results have been achieved by crossing the two genera that the mine is sure to be further worked. In all probability fresh hybrids of this character will crop up somewhat frequently for a year or two, and a name less cumbrous and clumsy than *Lælio-Cattleya* would be very

Although to those unacquainted with the meanings of these terminations one name is as good as another, as a matter of fact it is not so, for inaccurate application of them may mislead. Names should be latinised correctly or not at all.—FLORA.

CATTLEYA REX.

Interest was somewhat diverted from this *Cattleya* when it was offered for sale on May 5th by the endeavours that were being made at that time to focus the attention of orchidists on *C. Alexandræ*, yet it is more than likely that it will become much more popular than the latter. There was only a coloured plate to judge it by on that occasion, but it has since flowered in the collections of Welbore S. Ellis, Esq., Hazelbourne, Boxhill, Dorking, and H. M. Pollett, Esq., Fernside, Bickley, and was shown by both at the Drill Hall on July 26th. It proves to be a handsome form, and was awarded a first-class certificate. The sepals and petals are creamy white. The lip is heavily fimbriated, rich purplish crimson with creamy edge, and having

three white central veins. Other white veins radiate from the centre, fading out an eighth of an inch from the edge. The base of the lip and the exterior of the tube are tinted with yellow, and the throat is veined with the same hue. Mr. Ellis's specimen bore three flowers on the peduncle; Mr. Pollett's, which was a larger plant, four. This points to the fact that it is fairly free flowering, for it should be remembered that small pieces were shown. Perhaps there was some tinge of disappointment with it, but if not strikingly distinct and beautiful, it is likely to prove useful, for it will probably prove to be a winter bloomer.

Cattleya Rex was imported by L'Horticulture Internationale, Brussels, but though new to us Mons. J. Linden claims to have met with it fifty years ago. The highest price realised for one specimen at the sale referred to was 8½ guineas. The flower is represented by fig. 24.

ESTABLISHED AND IMPORTED ORCHIDS.

ONE of my readers, who is commencing the culture of Orchids, asked me recently, writes a correspondent of "LO'rchidophile," why established plants were found at a better price [presumably from the buyer's



FIG. 24 — CATTLEYA REX.

desirable. As a combination name has the advantage of affording a clue to parentage I venture to suggest *Læleya* as a very suitable one in the present case. It is euphonious, while clearly indicating the genera from which the hybrid was derived, and if accented on the second syllable there would be no danger of its being confused with *Lælia*. If Mr. Roife and others responsible for descriptions of Orchids would officially adopt this name a matter would be set at rest which, if not serious, is certainly inconvenient.—W.

DOG LATIN IN ORCHID NAMES.

IF more care is not exercised in the latinisation of English names for plants we shall be flooded with examples of inaccurate and misleading nomenclature. A short time ago a yellow *Arum* emanating from Pentland House appeared under the name of *Calla Pentlandi*, and now we have an Orchid exhibited under the name of *Cypripedium Elsteadiana* that has been raised at Elstead House. If these plants are intended to be named after the place in each case, and it may be assumed that this is so, both are incorrectly named. The termination "ense" should be given to both. The termination "i" indicates that the introducer's name is applied to the plant; "ana," on the other hand, being purely complimentary.

point of view] than imported ones. My reply was that there is no surprise to hope for amongst established plants, unless the dealer happens to be deceived. Imported plants are composed of varieties having a different value. In a hundred of them ten may be reckoned good, ten bad, and eighty medium in quality. The ten good plants often pay for the entire hundred. The buyer takes an opportunity of selling these plants, and is in a still greater hurry to get rid of the dross. That is why it is that it is easy to find plants offered at 4s. which may have cost a pound. The dealer, who does not care to cultivate or find room for defective plants, rids himself of them at any price, and he is right.

But this is not all. Established plants are accustomed to the greenhouse of the horticulturist, to the cares that they receive. When suddenly transported to a different centre they have to habituate themselves to a new life. It is to his interest to push his introductions, to flower them; he knows that the good varieties will give him a good return for his money, and he hastens to attain this end. At an equal price the introductions are worth much more than established plants. Observe what passes at the auction sales. Buyers are on the look out for importations, and however strong

established plants may be they fight shy of them. Amateurs say to themselves, "If someone wants to get rid of an established plant which has received a good deal of attention it cannot be a very good variety," and they will have nothing to do with it. It is certain that many established plants offered for sale have a real value, but experienced orchidists prefer, rightly or wrongly, to leave them alone. When an established *Trianae* that has flowered is bought for 4s. or 5s. it may be put down as a bad one; if it were not the dealer would have sold it in bloom. When an introduced plant is bought it may be bad, but there are 80 chances in 100 that it is good, 10 that it is perfect, and 10 only that it is not worth more than the established plant of the same price. Offer the established plants at a low price to an experienced grower and you will see what a reception you will get; offer him imported plants and he will show himself better disposed.

All dealers attach great importance to the variety; they know that a beautiful one gives no more expense than a bad one, and they keep it or sell it at a good price. In choosing imported plants amateurs should no longer allow themselves to be guided by the strength of the specimens, but rather by their condition. If a plant has good eyes, even though it be small, it is worth more than a strong plant of which the eyes are gone. It is a question of experience, which is usually acquired quickly, although it sometimes proves to be expensive.

CYPRIPEDIUM CAUDATUM LUXEMBOURG VARIETY.

THE tide of new *Cypripediums* has flowed somewhat slowly of late, but a notable addition to them was made in *C. caudatum* Luxembourg variety, which was shown at the Royal Horticultural Society's meeting on August 11th by Mons. Godefroy-Lebeuf, 5, Rue d'Edimbourg, Paris, when a first-class certificate was awarded. It is a very beautiful and distinct variety, chiefly remarkable for the fine colouring of the sepals. They are rich buttery yellow, paler towards the base, and veined with green. The dorsal sepal is narrow, and the edges curl back until they meet. It arches over the pouch so much as to fully display the deep yellow back. The lower sepal, on the contrary, is broad and flattened. The pouch is dull green, dotted on the edges of the throat with purple, the interior pure white. The tails are long, twisted, and of a dull purple hue. Fig. 25 represents this charming variety.

ORCHIDS IN BELGIUM.

AT the last monthly meeting of the Belgian horticulturists and of the Royal Botanic Society of Ghent certificates of merit were awarded to the following Orchids:—*Cattleya gigas* Warscewiczii, *C. g. imperialis*, *Cypripedium Rothschildianum*, *C. Curtisii atropurpureum* and *Gongora atropurpurea* from M. A. van Imschoot; *Cypripedium lævigatum platytænium*, *C. elegans hybrida*, *Odontoglossum tentacullatum* and *O. mulus-odoratum* from M. Jules Hye; *Lælia elegans Vervaeti* from M. M. Edm. Vervaet & Co.; *Sobralia xantholeuca* from M. Moens, and *Phajus Humbloti* from M. van Geert.

SMILAX (MYRSIPHYLLUM ASPARAGOIDES).

IT has fallen to the lot of few trailing plants to become so rapidly and universally popular as the extremely useful plant under notice. Almost any kind of cut flower decoration may be vastly improved by the addition of a few trailing shoots of it. The free and easy method of arranging both plants and flowers which has been fast developing during recent years has rendered the use of trailing shoots imperative, and although we have for years grown

many which answered the purpose fairly well, yet this *Smilax* is welcomed as being something distinct in appearance from all others, and in many respects superior to them.

Nothing I have yet seen is so useful for hanging over the sides of glasses and bowls on the dinner-table, or for trailing in gracefully curving sweeps upon the tablecloth. As greenery for arranging with flowers to form a shower bouquet nothing is more sought

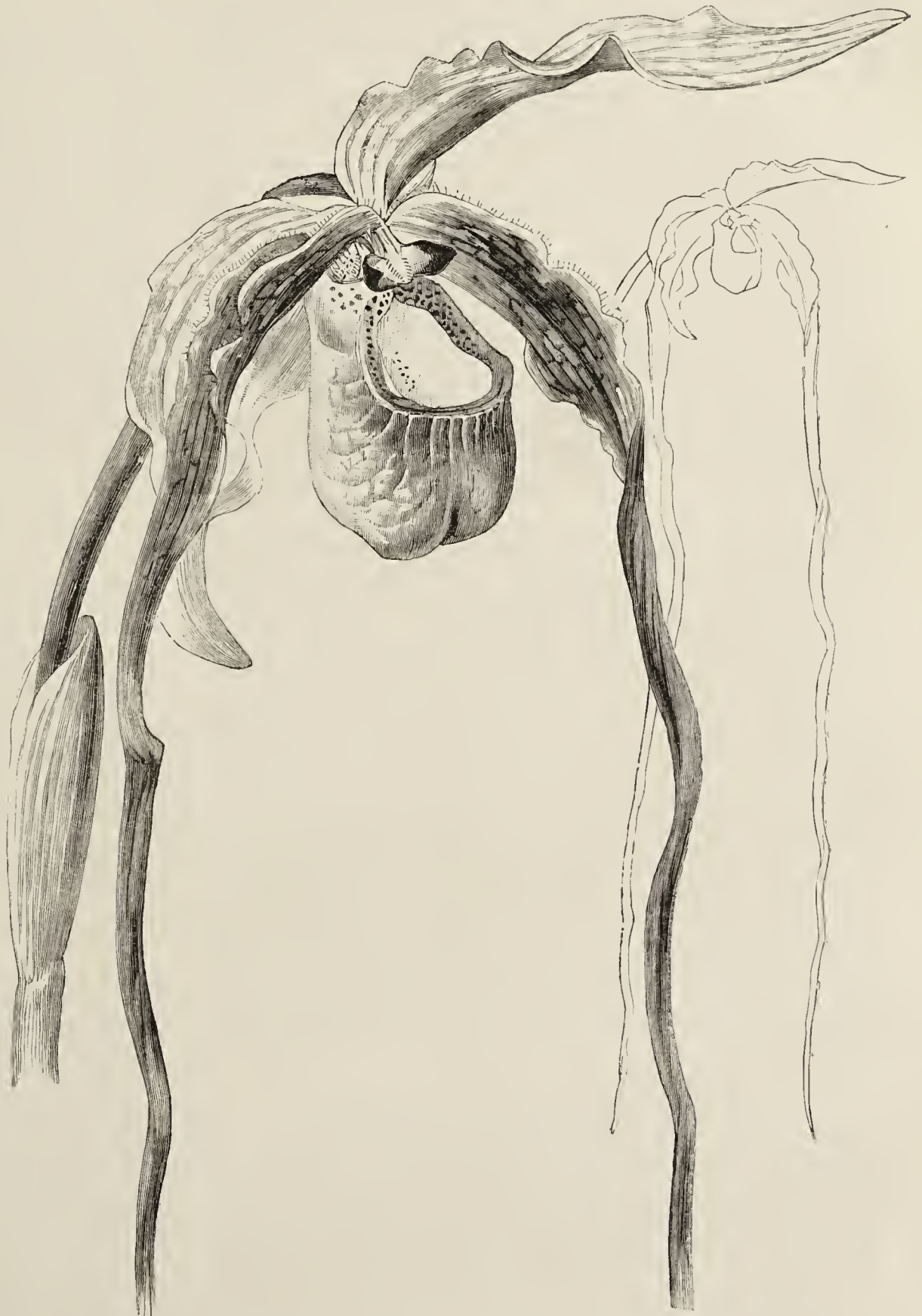


FIG. 25.—CYPRIPEDIUM CAUDATUM LUXEMBOURG VARIETY.

after than *Smilax*, the demand for which is so great that there are few places where a sufficient quantity can be obtained. This scarcity, I believe, has been brought about by cutting too hard before the plants are thoroughly strong, thus giving them but little chance to make good growth. I venture, however, to predict that when its culture is better understood *Smilax* will be grown largely and well, and the difficulty which is now experienced in its culture will be but little heard of, for it is really a very accommodating plant, and will grow well under widely differing conditions.

The best way to work up a stock of plants is to sow seed some time during the present month, and keep the young plants obtained growing steadily for twelve months, by which time each plant, if well grown, will produce a shoot from 8 to 12 feet in

length. As soon as these shoots have been cut for use the plants should be kept rather dry till they show signs of starting in the spring. Then water will be required more frequently, and when growth is well advanced the plants should receive a slightly larger pot, but care should be taken at all times to avoid overpotting.

About this time last year I received a packet of seed from New York. I sowed part of the seed myself, and gave some to a gardening friend. Both packets were sown in small pots and placed in a cold pit, where the plants were kept till frosty nights became prevalent. They were then placed close to the glass in an intermediate temperature, and kept growing steadily throughout the winter.

Early in the spring these plants, which till that time had been grown under the same conditions, were given widely different treatment. From five to eight seeds had been sown in a pot. Some of the seedlings were placed in 6-inch pots, and as soon as they were well established were trained to strings placed on a wall near the front of a cool conservatory, others were divided, and each plant placed in a 3-inch pot. The plants thus divided were put under handlights and kept close till well established. After having been inured to more light and air they were transferred to 5-inch pots. Some of these were placed against the sashbars at the ends of vineries, others against the glass partitions which divide the range of vineries into compartments. Strings were fastened the whole length of each sashbar, to which the young shoots quickly clung, and up which they gradually ascended. All have done well, but those trained against the ends of the houses are somewhat stronger than the others, and those grown throughout in the cool conservatory have not grown so freely as other plants given the heat afforded to Vines in the growing season.

In all cases where the plants were grown singly in pots the growth made has been much freer, but there is this to be said in favour of the growth produced from clumps—it is more suitable for using in shower bouquets and small vases; but for dinner-table decoration the longer the shoots the better, hence it is advisable to grow some plants under each system, with the slight alteration that those intended for growing singly in pots ought to be sown thus in very small pots to begin with. A few plants have been planted out against the back wall of a vinery, and by the way they are growing at present I anticipate this much-used plant will be thoroughly adapted for growing in such positions—if so, that fact should solve the oft-repeated question as to what is the best plant to cover the back wall of a vinery with, for there can be but little doubt that the demand for Smilax will be very great in the future, and if at the same time a plentiful supply can be had by growing it on walls which have previously produced nothing of special value it will be the more generally grown. A compost of loam, leaf soil, and a little decayed manure, with plenty of sharp sand, and some charcoal, lime rubble, or wood ashes added to keep the soil open and sweet, suits this plant admirably. It seems to be by no means fastidious in the matter of soil, provided the pots are well drained and the soil kept sweet, but stagnation at the roots is inimical to its well-being, and if continued fatal to its existence.—H. DUNKIN.

JUDGING HERBACEOUS FLOWERS.

I AM sure many readers of the Journal will be grateful to Mr. Garnett for his remarks under the above heading. Exhibitors and secretaries of societies will feel deeply interested in them, and curious as to the exact wording of the schedule. This coming so soon after Mr. McIndoe's letter makes it an important question, which I have not seen discussed in your valuable paper. As an exhibitor I am often puzzled, and as a local secretary dismayed, at the construction often put on the wording of the classes for cut flowers at exhibitions.

Let us take a few examples. Twelve cut blooms Chrysanthemums, distinct. Twelve bunches, distinct, three in a bunch, not less than three varieties. Note: Disbudding not allowed. Collection of cut flowers, four varieties, distinct species (cottagers only). Do cottagers know the distinct species, or only botanists? Collection of hardy cut flowers. Now comes the wrangle. Hardy where? A species hardy in Kent is not necessarily so in Durham. Then, how many? Are they to be bunched or mixed, or what? Six bunches of hardy flowers, shown in a box, distinct species. This is a gain, but still I may have five varieties of Pansies in one bunch, and so on with the other species. The opposite to the above is six varieties of cut flowers, distinct. Now, in a class of this description not one of six exhibitors at a country show in July complied with the direction. Again, twelve bunches of cut flowers, cut from the bed; and twelve bunches of garden flowers. In this schedule is a note: "Quality of flowers and general effect to be the leading features in these classes." Another schedule says, "The exhibits are to be made as interesting and instructive as possible." This is a very indistinct way of putting the matter I am aware, but so long as cottagers and others escape disqualification so long will the error of

having three colours of Stock, or Phlox, or Zinnias put in the place which should be occupied by only one variety continue.

There is a consolation, however, that in the future we may educate "our masters" up to the spirit of schedules and exhibitions. Mr. Garnett may also be encouraged to hear, that even in this dark spot the working classes are rising in horticultural matters, and especially in growing herbaceous flowers.—NORTHANTS.

HEATING WITH GAS.

I AM about erecting a very small propagating house, and as I do not keep a regular gardener it would be a very great convenience if I could heat it with gas. Can any of your readers tell me from experience about what the cost of consumption would be? I find it very hard to get any reliable information. The house I think will be span-roofed, about 7 feet 6 inches long by 8 feet 6 inches wide. On the one side would be a tank to propagate upon, and on the other side a bed for plants. There would be, I suppose, a flow and return along each side, so there would be about 30 feet of 3-inch piping to heat. The gas company tell me that it takes 1 foot of gas to heat 1 square foot of piping per hour to 180°. I therefore suppose that it would take about 20 feet of gas per hour to heat the 30 feet of 3-inch piping. This will cost about three farthings per hour, or 1s. for fourteen hours, or 1s. 6d. for twenty-four. This would be too much. I have a circular before me of a gas stove which the inventor claims will heat a house 14 feet by 9 feet with an average of 6 feet of gas per hour, but neither the amount of piping nor temperature of the house is stated. For a few years I have managed a coke stove, and there is one here for the greenhouse, but I have only lit it at night when frost threatened. With propagating, however, I suppose the heat is afforded continuously, and this with coke would be a serious toil. Any information will much oblige.—S. J. A.

LIFTING AND PLANTING PEACHES AND NECTARINES.

TREES which have been long subjected to very early forcing are seldom too vigorous, but often become so enfeebled as to need the removal of the weak growths. Such trees should be taken in hand as soon as the leaves are mature and before they fall, and it is advisable to shade the house before commencing operations, especially if the weather is bright. Remove the old soil from amongst the roots of such trees and supply fresh turfy loam, to which has been added a sprinkling of bonemeal and wood ashes—say, half a bushel of the first and a bushel of the latter to each cartload of loam. Raise any roots that are low, and place them in fresh soil nearer the surface, carefully working the loam amongst the roots, making all compact, and follow at once with a good watering. If the trees are in very bad condition it may be necessary to lift them altogether, rectify the drainage if defective, and put all into proper order. It is of no use, however, attempting to mend trees that have begun to lose a number of branches from gumming, for they are so full of the germs of the disease that lifting only accelerates young growths, which in two or three years are as badly infested with gummosis as any of the older branches.

Young trees are very much better than old that have become afflicted with this disease, which lies dormant in the tissues and only awaits an opportunity to break out again. Young trees may be cured by judicious lifting and cutting out the gummed branches, but when the disease has possession of the old limbs or of the stem it is better to uproot and plant young trees perfectly free from this increasing malady.

Any trees that grow too luxuriantly should be lifted and have the roots pruned, the more fibrous ones being laid in carefully as near the surface as practicable, making the soil firm. By sprinkling the trees occasionally, and continuing the shading for a few days if the weather is bright, the foliage will be retained long enough to insure the emission of fresh rootlets, and with these ready to cater for the growths when the trees are started there will be a good set of fruit, and it will stone and finish satisfactorily under favourable cultural conditions. The shade must be discontinued in the course of a week or ten days. If the old leaves are cast no harm will follow, as the laterals and the young wood having more or less elaborative power will further root-action.

When it is found necessary to displace old trees it is well worth while to give the new ones a chance, not merely digging a hole and planting them, adding a little fresh soil to give them a start; but by removing the old soil and providing fresh for making new borders in time to settle somewhat before planting the trees. The best description of loam is that from a pasture where the soil is friable but rather strong. That of the old and new red sandstone is no doubt the best, but most strong loams will grow Peaches and Nectarines well, provided they contain enough calcareous matter and are sufficiently porous as to allow water to percolate slowly but surely through the mass. Old mortar rubbish will give the needful porosity to heavy soil as well as supply lime, and clay marl will provide retentive power and lime for light soils. The border must be efficiently drained, and provision made to carry off the superfluous water. A foot in depth of drainage, and 2 feet depth of soil are ample. Instead of making the border its full width at once a 4 feet width is ample to begin with. The compost should be in good working order and put together firmly, having the borders in readiness by the end of September.

The best trees for planting in houses to be subjected to forcing in the first year are those which have been trained on trellises in cool houses, two or three years, or even four, if due regard has been had to lifting, or trees grown against walls in the open may be utilised by cutting the roots in, taking out a trench one-third the distance from the stem the branches extend. If this is done early in September and the trench left open a fortnight, the roots not allowed to suffer by want of water, and the foliage kept fresh by shading from bright sun, the trees may be lifted with a ball of soil at the end of the month and planted in a house, where they will take to the fresh soil at once, and be in a position for starting by the new year to afford fruit during the season.—G. A.

DISQUALIFYING EXHIBITS.

SOME remarks have appeared in the Journal lately upon the above subject. There is a point that I should like to touch upon. On examining schedules we usually find prizes offered for a collection of vegetables, and on examining these collections we find in nine cases out of ten Cucumbers and Tomatoes included. These are clearly fruits, and in my opinion ought to be disqualified, but I have never known or heard of that being done. I have heard of a case where a collection of vegetables was disqualified because it contained Beetroot, which was thought by the judges was not a vegetable. My idea is, if fruits such as I have named above are admitted with vegetables, then Melons are equally admissible in the collection.—R. C.

[We have often heard claims advanced for the inclusion of Tomatoes in the fruit classes at exhibitions, and if we mistake not they were included in a very large prizewinning collection in the north a few years ago, but a revolution in flavour will have to be effected before they have a recognised place on the dessert table, even when sweetened with sugar; and so long as they are prepared with oil, vinegar, salt, and pepper, and eaten as vegetables, we suspect they will remain in the vegetable classes. So with Cucumbers. Our correspondent does not ask that the Vegetable Marrow be included in the fruit classes; perhaps he forgot it. The proposition respecting Beet is so entirely novel that we could not think of erasing it, and it seems there are novelties in "judges," too. Perhaps some of our readers may like to say something on "R. C.'s" views.]

HASELEY MANOR.

HASELEY MANOR, the residence of Alfred Hewlett, Esq., is situated about three miles distant from Warwick, on the main road to Birmingham. Starting from the first-named town, the road traversed runs over gradually rising ground till Hatton, the adjacent village to Haseley, is reached. Here we find ourselves on the summit of a large plateau which extends in some directions as far as the eye can reach. It may therefore be inferred that the position is high and dry, with a bracing air, and not unfrequently the inhabitants experience a terrific and destructive wind. The effect of these uncertain gales is seen on all sides. Trees by the roadsides and on the outskirts of the woods show a great preponderance of growth on the north-east side, as the force of the south-west winds causes branches, and in many cases trunks as well, to bear in the opposite direction.

The Manor of Haseley is of very ancient date, but the new Manor House was begun in 1874, and completed in 1880. This is reached from the lodge near the main road by traversing a fine broad well-made carriage drive about three-quarters of a mile in length. This drive is upwards of 16 feet in width, and is planted on each side with trees to form an avenue. It is gratifying to note that ample provision has been made to allow these trees to develop into full beauty without encroaching upon the roads, a wise proceeding which has in too many instances been overlooked in the laying out of gardens. As we approach the mansion abundance of evidence is forthcoming to show we are in the grounds of one who is a lover of trees, and who pays due consideration to the future. Permanent trees are planted at wide distances apart, and the spaces filled up with others of quick growth for present effect, and to help in some measure to break the force of the strong gales experienced.

Planting has been carried on regularly by Mr. Hewlett and his energetic gardener, Mr. George Clements, and at the present time few places can boast of so many handsome young trees, fast developing into stately specimens. Large numbers of splendid young trees must soon be cut away to make room for the permanent ones to extend. Thinning is well looked after annually in order to keep the finest specimens from being spoilt through overcrowding. Under ordinary circumstances this would be done much more freely, but owing to the exposed position it has been found expedient to thin as gradually as possible to afford shelter to the permanent trees. Many of the outer groups and belts have, however, now grown to a sufficient height to give substantial shelter to other portions, so that by thinning freely the inner groups and trees in the least exposed places, those left will soon be too firmly established to be much affected by even the Haseley gales. One advantage of the situation is that the Golden Yews, Retinosporas, and Thuias colour to perfection; indeed, I do not remember ever having seen these fine Conifers with colours so vivid and beautiful. *Wellingtonia gigantea*, *Cupressus Lawsoniana* and *erecta viridis*, *Thuia Lobbi*, *T. gigantea*, *T. pendula*, *Picea pinsapo*, *P. Nordmanniana*, *P. concolor*, *Pinus insignis*, *P. nobilis*, as well as many others, are all represented by beautifully grown trees, deciduous trees and flowering shrubs being also freely used.

Weigela rosea and a very superior type of Mock Orange were quite a picture at the time of my visit.

Rhododendrons are also a great feature, and have been planted extensively. Several large beds are filled entirely with choice varieties, and large masses and belts of them occur in several parts of the grounds. Some of these were planted fifteen years ago, but as they did not succeed very well have since been taken up, and after adding cocoa-nut fibre refuse and sand to the soil already there, were replanted, and are now in a thriving state. Other belts have been recently enlarged by planting unnamed seedlings in front of them. In other places named varieties are arranged in groups, each group containing only one variety. The effect produced by such fine masses when in flower must indeed be grand, and I was extremely sorry that my visit was made too late in the season to see them in that stage.

In this part of the grounds, which is near the mansion, two broad terraces are situated, the walks being 10 feet wide, with a flight of steps at each end connecting the two terraces. Each terrace contains a level expanse of turf capable of holding two tennis courts, while another open expanse of lawn near is large enough for three more. One of the best views about the grounds is obtained from the terraces above mentioned. It looks out upon a wide expanse of park dotted here and there with trees, while in the distance, on slightly rising ground, a pleasing picture is formed by a fine plantation of large trees. This was much improved a few years ago by planting around it a belt of Coniferæ, and so arranging the outline as to form a winding alcove at a point where the tree tops were much lower than in other parts, thus showing a glimpse of the distant sky line beyond the trees.

We next pass on to the flower garden, which is surrounded with shrubs and trees and a belt of Rhododendrons. The garden is in five divisions, with a walk 7 feet wide intersecting it. The central portion is in the form of a square 55 feet across; in the middle is a large circular bed wired in the shape of a huge top 8 feet in height, the wires being used for training Clematises, and underneath the new white Marguerite, *Calecolaria amplexicaulis*, *Perilla nankincensis*, and blue *Lobelia* were arranged in circles, masses, and bands. Other attractive beds are four round ones having a little circular hedge in the centre of *Euonymus radicans variegata* filled in with Marguerites, bands of scarlet and Happy Thought Pelargoniums, and *Dracæna* leaved Beet, the edging being *Sedum acre aureum*. Two other beds in the shape of crowns are filled with bronze or tricolor Pelargoniums. Others of the same shape are planted with Pelargonium Golden Chain and edged with Cliveden Purple Viola. Surrounding the central square are four half-circles containing in all about twenty beds. A few of the most striking ones are planted as follows:—Henry Jacoby Pelargonium, edged with white Viola, and a white Pelargonium edged with dark Viola. *Lobelia Queen Victoria* (the well-known scarlet herbaceous one) was extremely effective when edged with blue *Lobelia*. *Brugmansia Knighti* and the old hardy *Fuchsia Riccartoni* were associated in another bed, while others were filled with Stocks, Asters, *Dianthus Heddwigi*, *Phlox Drummondii*, and *Verbenas*. Near this part of the grounds there is a beautiful and extensive prospect. Good views may be obtained of the "City of Spire," the ruins of Kenilworth, the Edge Hills, and nearer views of stretches of grass and woodland, prettily diversified by hill and dale.

We next pass on to the rosery, which is circular in shape, having a diameter of 120 feet. A high Laurel hedge surrounds it, at the base of which wire netting is securely fixed to keep out rabbits, which give much trouble about the grounds. Sweet Briar has been planted around the wire netting and trained to it, so that at the present time no part of it is visible; this struck me as being a capital idea, which might with advantage be carried out in many places, especially where the scented Briar shoots are in great demand. The rosery is divided into four quarters by walks 7 feet wide, each quarter containing seven beds; a border 6 feet wide runs round the whole next the hedge. The arrangement is a capital one, and was designed and laid out by Mr. Clements, who kept one important point in view, viz., to have the beds of such a width that the cultural details could be attended to without being continually trampling on the soil. It is one thing to have a good Rose garden and another to have good Roses, but it is not always that the two are found in conjunction with each other. There is, however, no mistake about their presence here; the Roses are indeed grand and the garden throughout in perfect order, not a weed, not a withered leaf to be seen. A considerable amount of labour and expense has been incurred in replanting some of the beds and in keeping up a good stock of the best kinds, and giving promising new ones a trial. It must therefore be gratifying to all concerned to find their efforts thus rewarded. I will give the names of a few which were particularly good:—*Madame Gabriel Luizet*, *Ulrich Brunner*, *Captain Christy*, *Merveille de Lyon*, *Sénateur Vaisse*, *Countess of Oxford*, *Duchesse de Vallombrosa*, *Duke of Edinburgh*, *Madame Victor Verdier*, and *Marie Baumann*.

Kitchen garden and glass houses are situated at a considerable distance from the mansion, on the north side of it. About 2 acres are enclosed within high brick walls; another plot to the extent of an acre outside the walls is used principally for growing Rhubarb, Seakale, and young nursery stock. An arch over one of the walks here, 27 yards in length, is utilised for training Blackberries on. Some of the best American varieties have been tried, but Mr. Clements has now discarded them in favour of those he obtains from hedgerows, which sometimes ripen as many as sixty berries on a spray. In the walled-in kitchen garden fine crops of vegetables of all descriptions were in a promising condition. Too much space would be taken up by giving details; but

especial mention ought to be made of a few grand rows of Peas, which were as even and well podded as it seems possible to have them. One variety was St. Duthus, which is much grown in this locality, another being Renown. Strawberries, too, were in extra good condition. A variety, grown under the name of Hayward's Prolific, was carrying an enormous crop. Mr. Clements attributes his success in securing such heavy crops in a light soil to the fact that the soil around each plant is rammed firmly each year.

The glass structures have until recently been somewhat limited, but with the addition of a substantial range, consisting of two vineries, a span-roofed conservatory, and an excellent fernery, a better opportunity is now given to supply the demands of the establishment, and arrangements are at present being made for the erection of two other houses. In the conservatory, which was gay and well kept, I noticed a fine batch of seedling *Streptocarpus*. These are a very showy and useful class of plants. Fuchsias, Begonias, Zonal Pelargoniums, Justicias, and Abutilons were also in capital condition. The fernery is well fitted up with artistically arranged rockwork, the Ferns being planted in pockets and carpeted with *Lycopodium*, while overhead are trained such useful subjects as *Asparagus plumosus* and *Smilax*. A winding walk is formed among the rocks, by which the upper portion of the back wall is brought within easy reach. When looking down from this point the verdant green Fern fronds of so many different forms, and the glistening water splashing against some of the rocks and trickling down the sides of others, leave a vivid impression of a fairy scene.

The vineries are planted with such useful varieties as Black Hamburgs, Madresfield Court, Buckland Sweetwater, Muscat, and Gros Colman. These Vines are carrying one bunch each this year. A number of Black Hamburgs, just beginning to colour, are growing in pots plunged in the middle of the house, and trained to the upper portion of the roof. Other houses are filled with a variety of plants useful for decorative purposes, which are in great demand. Mr. Clements' favourite Tomato is Trentham Fillingbasket, on account of its great cropping qualities. I was much struck with the fine type of Cucumber grown, which is Dickson's Excelsior. It is of medium size, perfect in shape, and a good cropper. I predict it will in the future be extensively grown.

I should have mentioned the walks around one kitchen garden are bordered with fruit trees, Apples and Pears being planted 10 feet apart, and 6 feet from the Box edging. Some of the trees first planted in these positions suffered badly from canker where the roots penetrated the sandy subsoil. These were removed, holes 6 feet in diameter dug out, and concreted at the bottom. Healthy young trees were then planted, which are now going on in a satisfactory manner, and by rooting out all the old trees which had shown signs of canker, and planting young ones on prepared stations, Mr. Clements hopes to prevent another attack of canker.—H. D.

HORTICULTURAL SHOWS.

QUEEN'S ROAD HORTICULTURAL SOCIETY, SHEFFIELD.

THE tenth annual Exhibition of this Society was held on Monday, August 15th, in the beautiful grounds of "The Farm," the Sheffield residence of the Duke of Norfolk. The exhibits were all arranged in one immense marquee, situate at the head of the Park overlooking the Duke's residence. Down the centre of this was arranged a number of groups arranged for effect, mostly of a very high order of merit, some of them being thoroughly artistic in their arrangement. Whatever may be urged against the prevailing custom with committees in offering prizes for these groups for effect, it cannot be denied that wherever so encouraged they prove the feature of the Show, and that they have a most telling effect in the technical and artistic education of the local gardeners. We find as a rule that where these groups are a new feature the first efforts of local gardeners invariably appear in the form of sloping banks of foliage and flowering plants and Ferns, packed sufficiently close together to hide the pots and the faulty parts of each plant; but each succeeding season that these groups are continued we find a further remove from this primitive form of grouping, until in the best efforts to be seen at old established shows, one cannot but admit that the mind and eye of a true artist have designed and superintended their arrangement. This is as it should be, and it is a legitimate argument in favour not only of continuing these shows, but also especially of the continuance of these classes.

The first prize in each of the two classes for a group of foliage and flowering plants and for a group of Ferns was taken by Mr. E. Pidsley, gardener to Mrs. H. Wilson, Westbrook, Sheffield; second, for plants, Mr. Topham, gardener to Councillor J. Smith; and for Ferns, Mr. W. Sheridan. In the open classes also stove and greenhouse plants and Ferns were especially well shown. For six foliage and flowering plants Mr. Pidsley was again first with a very fine collection, consisting of *Clerodendron Balfourianum* (large and well flowered), *Stephanotis floribunda*, *Croton Hookeri*, *Allamanda boliviensis*, *Maranta Makoyana* (a grand plant), and *Croton Hillianum*. Mr. W. Sheridan was first for six Ferns with very fine specimens. Begonias, Zonal Pelargoniums, and Fuchsias were very well shown in the open and gentlemen's gardeners' classes, but only very indifferently in those devoted to amateurs and cottagers.

Cut flowers, in stands of twelve, were a fine feature of the Show, and were very good throughout. Fruit and vegetables, on the contrary, were sparingly shown, and generally deficient in quality. Much of this was

attributable to the fact that the gardens of a very large number of the members of the Society and past exhibitors have during the past year been appropriated by the Midland Railway Co. for extensions to their sidings and goods sheds. It is satisfactory, however, to know that the Duke of Norfolk has, through his agent Mr. Ellison, provided other land, which is being laid out as allotments, to replace that thus lost.

An important portion of the Show was the exhibits not for competition. Messrs. Fisher, Son, & Sibray, and B. Crossland & Son each exhibited fine large groups of plants not for competition. Mr. D. Fellows had a smaller but very pleasing group. Mr. B. Simonite had a fine exhibit of cut flowers of yellow ground Carnations, mostly unnamed seedlings, to several of which certificates of merit were awarded. Mr. R. W. Proctor, Chesterfield, had a very fine collection of Roses and Carnations. A certificate of merit was awarded to him for a beautiful wire-edged Picotee named Mrs. Wilson. Mr. J. W. Wilson, florist, Handsworth, had a collection of Carnations, Picotees, and Pompon Dahlias, for which he was awarded a special prize, and also certificates of merit for two seedling yellow-ground Carnations—Mrs. Wilson and Dolly Gunn. Mr. J. Lamb, of Burton Joyce, Notts, sent a stand of six flowers of his new seedling rose-flaked Carnation Duchess of Portland, for which a certificate of merit was awarded. The Show Dahlias were, as they always are at this Show, very fine indeed. We have seen no better exhibited at any show this season.

Another feature of the Show, which formed a centre of attraction, were the exhibits in a class for a design for house and flower garden. The one taking first prize was a most elaborate and costly affair, which a label upon it stated had taken nearly 2000 spare hours in construction.

SHANKLIN (ISLE OF WIGHT).—AUGUST 17TH.

THIS Show was held in the beautiful grounds at Rylestone by permission of M. Sparatali, Esq., and a better site could not well have been found, as it overlooks the Chine, pier, and esplanade. It proved one of the most successful yet held. The exhibits were shown in three large marquees. The collection of stove and greenhouse plants, groups, baskets of plants for effect, Asters, and Marigolds, which are a speciality in the island, were very good. The cottagers' vegetables were better than those shown by professional gardeners. Mr. Pritchard, florist, Christchurch, showed a splendid collection of hardy herbaceous flowers, many of them novelties. Special prizes were given by Messrs. Sutton and Sons, Reading; Messrs. Daniels Brothers, Norwich, and the Lady Isabel Atherley.

The Show was honoured by a visit from H.R.H. the Duke of Connaught, Prince Herman of Saxe-Weimar, and Princess Margaret of Connaught. Mr. W. Drover, one of the Judges, conducted them through the tents. The Duke expressed himself greatly pleased with the beautiful exhibits. On leaving the Show Mr. W. Drover presented the Princess Margaret of Connaught with a lovely bouquet, which the firm exhibited not for competition. The Duke thanked Mr. Drover, and intimated his intention of paying a visit to the Nurseries at Fareham.

Credit is due to the Chairman, Dr. Cowper, and the Committee for the success of the Show; and to Mr. J. A. Ventin, the new Hon. Secretary, the highest praise must be given for the thorough manner in which the arrangements were conducted.

EYNSFORD.—AUGUST 17TH.

THE Eynsford Cottage Gardeners' and Mutual Improvement Society's annual Exhibition was held on the above date in the beautiful grounds of Lullington Castle, by the kind permission of Sir W. Hart Dyke, Bart. It was a typical village flower Show, but, nevertheless, of an extremely interesting character. True, the display of garden produce could not be compared to that shown at the many large exhibitions which have recently been reported in these pages, but so far as quality was concerned the exhibits were perhaps beyond the standard generally seen on such occasions. The Eynsford cottagers have long been famous for their well-grown vegetables, and the results of this year's labour were no exception to the rule. Possibly we shall not be far from the right track in saying that, in a great measure, the success of the Eynsford cottagers and their Exhibition are largely due to their near benefactors—Messrs. H. Cannell & Sons. This well-known firm has so long been acquainted with everything connected with horticulture that it is not at all surprising to hear of the successful culture of vegetables in the immediate neighbourhood. It was a glorious day for holding a flower Show, and the villagers were quite *en fête*, there being sports and various other entertainments, in addition to the Exhibition.

The collection of vegetables shown by members of various societies in Kent, and grown from seed supplied by Messrs. Cannell & Sons, were the principal features of the Exhibition. Prizes to the extent of £6 were offered by the Swanley firm in this class, and these brought forth some good exhibits. The first prize was awarded to a meritorious collection, comprising Duke of Albany Peas, Cannell's Perfection Potatoes, Cannell's Selected Runner Beans, and Moore's Cream Marrows, all well grown. The name of the winning Society had, however, been cut from the show card for some unexplained purpose. A collection shown by the Milton Horticultural Society (Sittingbourne) was placed second, Broughton Horticultural Society being third. In each case the vegetables were exceedingly good, considering that they were the produce of cottage gardens and allotments.

Potatoes were exceptionally fine in the classes provided for them, affording ample evidence that the soil of Kent is capable of producing fine samples of the popular tuber as well as fruit. Messrs. W. Smith,

C. Smith, and K. Baldwin were the prizewinners in the class for one dish, all showing clean, well-grown tubers. *Magnum Bonum*s were very fine and clean, especially those staged by Mr. G. Barclay. Mr. T. Baldwin was first with four dishes, Messrs. Barclay and R. Baldwin being second and third. American Rose, though less popular generally, apparently still remains a favourite with the Kentish cottagers, some grand specimens being staged on this occasion. Mr. K. Baldwin had a remarkably fine dish, for which the first prize was awarded. Peas, Vegetable Marrows, Cabbages, Parsnips, and other vegetables were also of good quality.

Messrs. Cannell & Sons sent various miscellaneous exhibits. These comprised a collection of Cactus Dahlias, the flowers being remarkably fine; a group of foliage plants, amongst which Crotons, Palms, Coleuses, Caladiums, and Ferns were conspicuous; and a number of *Tigridia* blooms, these being most gorgeous, especially *T. pavonia grandiflora*. Messrs. Cannell also showed a brace of their Kentish Hop-pole Cucumber, an appropriate name, considering the length of the fruit.

Honey was shown by various local bee-keepers and by the Kent Bee-keepers' Association. Mr. E. D. Till, Eynsford, staged a hive of working bees as well as supers of honey, and Mr. Wheeler of the same village likewise showed samples of honey made by his bees.

SHREWSBURY.—AUGUST 17TH AND 18TH.

SHREWSBURY at show time presents a sight not soon to be forgotten by visitors whose eyes are not trained to see the extraordinary interest that is taken in the event of the year. The ancient capital of the border county is decorated for the occasion in almost a lavish manner, and not in tawdry style. Train after train brings its thousand and more passengers, taxing the resources of the railway officials to cope with the traffic. The main street from the station to the Quarry Grounds is full of animation by a stream of people who file in at one end and out at the other to the number of some 50,000. The park-like grounds suggest the resemblance to an army encampment, as dozens if not scores of marquees are seen scattered round the noble semicircle, outlined by magnificent Limes, which form a noble skirting boulevard. Many of the great marquees represent the commissariat, for it has to be remembered that an army has to be fed—a civil army of sightseers—that could not possibly be kept civil if hungry. There is no occasion to be hungry at the Shrewsbury Show, and it would be difficult to imagine an equal mass of people better dressed, more orderly, or more intent on obtaining pure enjoyment. The attractions provided are of the best—the best music, at a cost of some £300—the best produce of gardens, involving an outlay of say thrice that amount; then when dusk succeeds daylight the best fireworks follow. Everything that is considered worth doing is done well, and it is the experience of the Committee and the experienced Secretaries, Messrs. Adnitt and Naunton, that the more generous the action the more generous the response.

It may be said the affairs of the Shropshire Horticultural Society are conducted in a statesman-like manner, and with what success the records show. The two gentlemen named have worked together for eighteen years, during which time the Society has attained a position almost, if not quite, unparalleled. Though hundreds of pounds have been spent in improving, furnishing, and beautifying the Quarry Grounds, and transforming a swampy dell into a charming garden, yet the invested capital yields a substantial annual income. The present year was commenced with a fund of over £4000, and tickets to the amount of £700 were sold by the Secretaries in a few days prior to the Show. While, therefore, fine weather is always hoped for and generally enjoyed, ample provision is made for the proverbial "rainy day" that has too often brought weaker societies to the verge of ruin. Last year the receipts of the Shrewsbury Show were £370 in excess of those of any previous season, and the gross profits upwards of £900. It is almost too much to hope that such a result can be exceeded this year, with the outlay greater than ever; but however that may be, the Society rests "broad based upon the people's will," because the policy of the directorate has distinctly won the confidence of the population of the district.

The Show this year was greater than ever, and even better in every department; indeed, it is not too much to say that each section was a show in itself. For instance, if we take the huge marquee that contained the specimen plants and superb groups the mind must travel far to find its equal, and then perhaps fail. Much the same may be said of the cut flowers having regard to their numbers and variety. Fruit was in larger force than ever, and the display of black Grapes has never been equalled at Shrewsbury, nor perhaps excelled elsewhere. Vegetables may, perhaps, fittingly be described as prodigious, and "wonderful, but too large," was the comment of old growers who have more regard to high quality than mere size, yet it must be conceded that not a few of the specimens combined both of those properties, and judges were impelled to observe "there was no getting away from them." Complimentary exhibits were also very numerous, and contributed materially to the general effect. It will be well to point out some of the leading features and indicate the chief prizewinners in the different sections of this really great Show.

PLANTS.

A very large tent was devoted to stove, greenhouse, and other plants, also to the six superb groups staged in competition, each in a space of 300 square feet, for prizes of £20, £16, £14, and £12, and they were grand. Mr. Peter Blair, Trentham Gardens, was well first with a truly artistic group, having a lovely background of Bamboos with a Palm in the centre. In a central small group was a fine *Cocos Weddelliana*,

surrounded by Orchids, Asparagus, and Maidenhair Ferns, and a few small bright Caladiums. Two corresponding groups were near the sides, a Palm in each, and Orchids, and other plants. Several fine plants of *Dendrochilum filiforme* were in raised positions in front. It was altogether an exceedingly well worked-out arrangement. Second, Mr. J. Cypher, Cheltenham, who had a very fine group with *Cattleyas*, *Vanda cœrulea*, and other Orchids, the whole consisting of smaller groups artistically displayed. Third, Mr. C. H. Wright, Halston Hall, Oswestry. Fourth, Messrs. Jones and Sons, Shrewsbury. Extra, Mr. Allum, Tamworth; but, with the exception of the first and second groups, there was an overcrowding of the plants.

In the class for sixteen stove and greenhouse plants, not less than eight in bloom, Mr. Cypher easily won the first prize with grand specimens, in which were very fine examples of *Ericas Austiniana*, *Aitoniana*, *Thompsoni* (a very fine plant), and *obovata purpurea*, *Allamanda Hendersoni*, *A. nobilis* (a grand plant), a very fine *Statice profusa*, *Croton angustifolium*, and *Ixora Pilgrimi*. Second, Mr. W. Finch, gardener to Mr. Alderman Marriott, Coventry, who had fine examples of *Ixora Duffi*, *Dipladenia amabilis*, *Erica Marnockiana* and other plants. Third, Mr. Mould, Pewsey, with smaller but very even and well grown specimens, amongst them being *Ericas Marnockiana*, *œmula*, and a very large *Eweriana superba*, a fine *Statice Gilberti*, and an excellent *Alocasia Lowi*. Mr. Cypher also staged a group of twenty plants, not for competition. In the class for six stove and greenhouse plants, open, equal firsts were awarded to Mr. Cypher and Mr. Finch for two very fine lots. In the former were *Bougainvillea glabra*, *Ixora Pilgrimi*, *Allamanda nobilis*, *Phœnecoma prolifera Barnesi*, and very fine *Ericas Austiniana* and *Marnockiana*. Mr. Finch's included a grand *Ixora Duffi* with twenty-five trusses, and superb *Ericas Irbyana* and *Marnockiana*. Third, Mr. Mould.

For six stove and greenhouse plants, open to gentlemen's gardeners in Salop, first, Mrs. Juson, Shrewsbury; second, Mr. H. H. France, Hayhurst; third, Lord Berwick. Some very fine Ferns were staged. For a group of not less than twenty Orchids, Mr. Cypher was first with about sixty plants, well staged amongst Ferns and other plants. In this group were some choice forms, especially a superb specimen of the very lovely *Sobralia xantholeuca*, of a rich cream colour, with orange centre, flowers large, and of great substance; *Dendrobium Phalænopsis* in variety; *Vanda cœrulea*, superbly flowered; *Dendrobium Deari*, and superbiens; *Cattleyas Dowiana* and *Dayana*; *Oncidium dasystyle* (the Bee Orchid), *Gardnerianum*, *macranthum*, with very large flowers; *Aerides Sanderiana*; *Odontoglossum Harryanum*; and a very fine *Cypripedium grande*. Mr. Blair was second, and in his group were some very fine specimens of *Oncidium macranthum*. Mr. Blair also showed a plant in flower of a fine *Bilbergia*, but it was unnamed.

For four Orchids (Salop only) Mr. A. W. Darby was first, Colonel Lloyd second, and Mr. J. Watson third. For six Palms Mr. Cypher was first, Mr. Marriott second, and Mr. Blair third. His six first-prize *Dracenas* were excellent. Caladiums and Coleus were plentiful and very well grown. There were also some good Fuchsias, especially the first prize four staged by Mr. A. Myers, Shrewsbury, which were well grown and well flowered specimens. The same exhibitor was first in each class for six double and six single Zonal Pelargoniums, superb specimens, not too large, as sometimes seen, but of good size and admirably grown and flowered. The Zonals generally were fine. Some good Begonias were staged, especially Mr. W. Beacall's first prize collection. The gentlemen's gardeners' classes were well filled, Mr. G. Burr taking first prizes for six stove and greenhouse plants and four exotic Ferns. For twelve plants for table decoration, first Mr. Blair, second Mrs. Juson, third Messrs. Pritchard & Son. For fifty miscellaneous plants in 5-inch pots Messrs. Jones & Sons first, General Herbert second, and Mrs. Watkins third.

CUT FLOWERS.

The cut flower section of the Exhibition was a very strong one, larger than usual. For twenty-four Roses, Messrs. Harkness & Sons were first, Messrs. Perkins & Sons second, Dicksons, Chester, third. All were excellent stands for this time of year. Large prizes were offered for collections of Dahlias, and Messrs. Keynes, Williams & Co., Salisbury, were first with a fine display at judging time, but the shields filled with blooms had a wretched appearance in the afternoon through the flowers not being in water. It would be well in the future to stipulate for the flowers being staged in an ample supply of water. Mr. G. Humphreys, Chippenham, showed well, but his arrangement was rather flat. It was neatly set up. His front blooms of Show Dahlias were not so fine as in the Salisbury stand. Third, Messrs. Jones & Sons, with well set up flowers with their own foliage and weak front blooms, but Dahlias staged in this way make a very effective display. In the class for thirty-six Dahlias some very good stands were staged. First, Messrs. Kimberley & Son, Coventry; second, Mr. C. Humphreys; third, Mr. J. Walker, Thame. For twenty-four, Mr. Walker was first, Messrs. Keynes and Co. second, Messrs. Kimberley third. Excellent prizes for a collection of Gladioli brought out only one exhibit from Messrs. Jones and Sons, and a second prize was awarded. There was a very fine display of hardy herbaceous flowers, the silver medal and first prize being awarded to Mr. Michael Cutburtson, Rothesay, for a well arranged and extensive lot. Second, Messrs. Dickson, Chester; third, Messrs. Harkness & Sons. For twelve bunches for Salopian growers, first Rev. T. M. Bulkeley-Owen, second Messrs. Jones & Sons. Some excellent Carnations and Picotees were staged, Mr. R. Sydenham taking first for twelve Carnations and twelve Picotees; Messrs. Thomson & Co. second for Picotees and third for Carnations; and Mr. A. R. Brown second for

twelve Carnations and third for Picotees; all Birmingham growers. For twelve yellow grounds and selfs, Messrs. Thomson & Co. were well first with a very fine lot of yellow grounds; Mr. A. R. Brown second, and Mr. Sydenham third. Blooms of Mrs. Robert Sydenham, the finest of all the yellow grounds, were prominent in their stands.

The contest for the excellent prizes for a pair of bouquets was a very close one indeed and taxed the Judges, quality and exquisite taste ruling. Messrs. Jenkinson & Son, Newcastle, were placed first with very lovely arrangements. Second, Messrs. Jones & Son. Third, Messrs. Perkins & Sons. Fourth, Mr. Chard, London. Fifth, the Liverpool Horticultural Company. Sixth, Mr. G. Davidson. Three fine epergnes well merited their prizes. First, Messrs. Jones & Son. Second, Mr. Blair. Third, Mr. Keble, Market Drayton. Dinner tables.—First, Mr. J. R. Chard, Stoke Newington, London. Second, Messrs. Jones and Son. Third, Messrs. Pritchard & Sons.

FRUIT.

As has been previously indicated the display of fruit was both extensive and excellent. Superior produce, except perhaps in the white Grape classes, with close competition, prevailed, and many an exhibitor who came with bright hopes of securing a good position in the prize list, was probably taken by surprise when he found what he had to contend against on the long and well-laden tables. Only the more important classes can be particularised, the competition being open to all except where otherwise specified.

Collections.—These came first in the section, and good prizes had the usual effect of insuring good contests for supremacy. In the class for a collection of "twelve dishes, to include two black varieties and two white varieties of Grapes (two bunches of each), one Melon and one Pine; space 12 feet by 4 feet 6 inches," the amounts offered were £10, £6, and £3. Five collections were arranged. Mr. R. Dawes, gardener to the Hon. Mrs. Ingram, Temple Newsam, Leeds, was fortunate in securing the chief position, his magnificent bunches of Gros Guillaume Grapes, no doubt, weighing most heavily in his favour. Such bunches, as combining size, symmetry, and colour of berries, are rarely seen. The collection also contained a very good Alicante, but the white Grapes—Muscat of Alexandria and Buckland Sweetwater—were far from being in the best condition. The Pine, a Queen, was very fine. The remaining dishes comprised a Melon, two Peaches, Princess of Wales and Bellegarde; two Nectarines (well coloured); Roman Apricots, and Green Gage Plums (good).

Mr. W. Iggulden, gardener to the Earl of Cork and Orrery, Marston House, Frome, was a dangerously close second with a really fine collection, probably the best he has staged. The Pine was good, though not equal to Mr. Dawes', but at least three out of the four dishes of Grapes were far better than those in the Yorkshire collection. They comprised the best Muscats in the Show, with Buckland Sweetwater, Black Alicante, and Madresfield Court, all in superb condition. The remaining dishes consisted of grand Peaches, Figs, and Cherries, excellent Nectarines, and Oullins Plums, with good Hemskerk Apricots. But for the "big Grapes" above referred to Mr. Iggulden must have won the first position easily; but no doubt the experienced Judges weighed everything well before delivering their verdict. Mr. J. H. Goodacre, The Gardens, Elvaston Castle, followed very closely indeed for the third prize, staging a good Pine, with Grapes, Peaches, Nectarines, Figs, Cherries, Apricots, and Plums, all of excellent quality. Prizes of £5, £3, and £2 were offered for collections of nine dishes of fruit to Shropshire exhibitors. The first prize was won by Mr. Bremmell, gardener to H. H. France-Hayhurst, Esq., Overley, Wellington, with heavy and good Black Hamburg and fair Muscat Grapes, a good Melon, and creditable dishes of Apricots, Cherries, Peas, and Plums. Second, C. H. Wright, Esq., Halston Hall (Mr. J. Pearson, gardener), Gros Colman Grapes being unusually good in this collection.

Grapes.—Tempting prizes of £10, £6, and £3 were offered for six bunches of black Grapes in three varieties, two bunches of each, splendid competition resulting between eight exhibitors. Mr. J. Bennett, gardener to C. W. Winn, Esq., Rûg, Corwen, well won the first position with magnificent examples of Gros Maroc, Madresfield Court, and Black Alicante. Second, Mr. Hepburn, The Priory, Shrewsbury, with splendid bunches of Madresfield Court, and very good Alnwick Seedlings and Alicantes. Third, Mr. Langley, gardener to Rev. J. M. Bulkley-Owen, Tedsmore Hall; fourth, Mr. Bannerman, both staging really good examples, much better in fact than we have seen win first prizes at many shows.

Seven exhibitors staged in the class for three bunches of Black Hamburg Grapes. Mr. J. Bates, gardener to T. Harries, Esq., Stone, was the premier exhibitor, with 1½ to 2-lb. bunches of large and well-finished berries. Second, Mr. R. Bramhall, gardener to J. C. Sinclair, Esq., Ravenswood, Rock Ferry, with good and well-shaped bunches of fine berries. Third, Mr. Langley, with larger bunches, but smaller berries. In the any other black variety class Mr. Hepburn was first with splendid Madresfield Courts, Mr. Broomhill a good second with the same variety, and Mr. J. Wilkes, gardener to Mrs. Meaken, Cresswell Hall, Stafford, third out of seven collections.

Mr. J. Crawford, gardener to Col. Thorpe, Coddington Hall, Newark, was first in the class for two bunches each of two varieties of white Grapes with Buckland Sweetwater (clear and good), and fair examples of Golden Queen. Mr. Wilkes second with Muscat of Alexandria and Golden Queen, of fair quality. Mr. G. Middleton, gardener to R. Pilkington, Esq., third, with Muscats and Foster's Seedling. This was not a particularly good class. The last-named exhibitor took the lead with three bunches of Muscats—heavy, full, and fine. Mr. W. Coates,

gardener to H. Verdin, Esq., Darnhall Hall, Cheshire, second, not quite so large in berry, but better finished. Mr. Carr, gardener to Lord Hill, Hawkstone, third with smaller bunches, but very fine berries. In the class for three bunches of any other white varieties Mr. Langley was distinctly first with splendid examples of Buckland Sweetwater; Mr. Wilkes second with large but unshapely Foster's Seedling; and Mr. Crawford third with small bunches but superbly finished berries of Buckland Sweetwater.

In the following county classes for Grapes there was good and creditable competition. Black Hamburgs, two bunches.—First, Mr. G. Dawes, gardener to W. Darby, Esq., Little Ross, with remarkably fine examples; Mr. R. C. Townsend, gardener to Colonel Lloyd, Aston Hall, Oswestry, second, with small but well finished bunches, and Mr. Bremmell a very good third. With two bunches of any other variety of black Grapes the last named exhibitor was first with very good Alnwick Seedling; Mr. Townsend second with Alicante, and Mr. Hughes, gardener to A. H. Boughton Knight, Esq., Downton Castle, third; Mr. T. Smeatman, gardener to Captain Cunliffe, Leaton Knolls; Mr. Townsend and Mr. Carr were awarded the prizes in the order named for Muscats; Mr. C. Bellis, gardener to Sir C. H. Rouse Boughton, Downton Hall, being first in the class for any other white variety with heavy bunches of Buckland Sweetwater. In the open class for amateurs Mr. S. H. Hall, Rock Ferry, was easily first with black Grapes, excellent Hamburgs; and Mr. G. Burr, in the corresponding white class, with Muscats.

Other fruits.—Peaches were well shown, Mr. Wilkins, gardener to Lady Theodore Guest, Inwood, well winning first honours with a magnificent dish of Sea Eagle. Mr. Wilkes was second with highly coloured Barringtons, and Mr. Blair a very close third. Mr. Barker, Ravenswood, Rock Ferry, had the best Nectarines, highly coloured Elruge. There was a fair display of Melons, Mr. Dawes being first in the Green Flesh class with Eastnor Castle, Mr. Bennett second with Hero of Lockinge. Mr. R. Lawley, gardener to Mrs. Darby, Adcote Park, staged the best Scarlet Flesh, Sutton's Benham Park; Mr. Wilkes following with Sutton's Triumph. The chief prize offered for six dishes of hardy fruits (Apricots, Peaches, Nectarines, and Plums excluded) was won by Mr. J. Pye, gardener to T. Meares, Esq., Clive Hall, with excellent dishes of Apples, Pears, Gooseberries, Raspberries, Cherries, and Currants. Worthily of particular mention in this section of the Show was Mr. P. Blair's exhibit of twelve Queen Pines from Trentham, well developed and perfectly ripe fruits from 3½ to 4 lbs., not for competition, and for which a silver medal was appropriately awarded.

VEGETABLES.

A considerable number of classes and liberal prizes were offered for vegetables, and these attracted some of the most noted exhibitors in the country, a very fine display being made. There were five competitors in the class for twelve varieties, and the Judges experienced considerable difficulty in awarding the prizes. Eventually Mr. W. Pope, gardener to the Earl of Carnarvon, Highclere Castle, Newbury, was placed first; Mr. T. Wilkins, gardener to Lady Theodore Guest, Inwood House, Henstridge, second; and Mr. C. J. Waite, gardener to Col. Talbot, Glenhurst, Surrey, third. The premier collection consisted of Sutton's Imperial Beet, Autumn Giant Cauliflower, Sutton's New Intermediate Carrot, Solid White Celery, Globe Artichokes, Excelsior Onions, Duke of Albany Pea, Ne Plus Ultra Runner Bean, Satisfaction Potato, Perfection Tomato, Prizetaker Leek, and Sutton's Matchless Cucumber, all in perfect condition and very well set up. Eight competed in the class for nine varieties, this being confined to the county of Salop. Mr. T. Smeatham, gardener to Captain Cunliffe, Leaton Knolls, was well first, his collection comprising good Lyon Leek, Autumn Giant Cauliflower, Intermediate Carrot, Windsor Castle Potato, Dickson's Al Runner Bean, Duke of Albany Pea, and Perfection Tomato, all very superior; Mr. J. Damien, gardener to Major-General C. V. Jenkins, was a good second; and Mr. J. Abbott, gardener to Mrs. Guise, a highly creditable third.

All the classes for single dishes and collections of Potatoes were very well filled, but we cannot say the same of the prize cards; these being anything but legibly written in the vegetable classes generally. The best six varieties of Potatoes were shown by Mr. J. Hathaway, gardener to the Earl of Latham, Ormskirk, who had grand dishes of Satisfaction, Snowdrop, Reading Ruby, International, Cole's Favourite, and Alderman. Mr. A. Coombe, gardener to the Earl of Dudley, was a very close second; and Mr. H. Forder, gardener to Col. Cornwallis West, West Lockies, third; a considerable number of other growers staging admirably. With three varieties of Potatoes Mr. A. Coombe took the lead, having perfect dishes of Sharpe's Victor, Edgemoor Purple, and Sutton's Perfection. Mr. J. Davies followed closely, and Mr. S. Brunnett was a good third. The entries for a single dish were still more numerous, Mr. A. Coombe winning first prize with a good dish of Satisfaction, Mr. Forder being second, and Mr. C. J. Waite third. Cucumbers were numerous, but not of a very high class. Mr. H. Forder was first with Lockie's Perfection, and Mr. Iggulden second with Improved Telegraph. Tomatoes were fairly numerous, and the quality good, coarse fruit being absent. Mr. T. Pye, gardener to T. Meares, Esq., was first and Messrs. Jones & Sons, Shrewsbury, second; both having good samples of Perfection. Peas were numerous and of great excellence. Mr. R. C. Townsend was first, and Mr. F. Roderick, Chirk Castle, second; while the first prize for Kidney Beans went to Mr. C. J. Waite, Mr. R. Darby being second.

Messrs. Webb & Sons, Stourbridge, offered a series of liberal prizes for a collection of eight varieties of vegetables, and these attracted very close and good competition. Mr. T. Wilkins was first, staging grand dishes

of Ailsa Craig Onion, Autumn Giant Cauliflower, Pearl Celery, Sensation Tomatoes, Ne Plus Ultra Runner Bean, Prodigy Pea, Webb's Defiance Carrot, and Satisfaction Potato. Mr. W. Pope was a very close second, Mr. J. Hathaway third, and Mr. C. J. Waite fourth. Messrs. Webb and Sons also provided good prizes for their Tomatoes, and the variety Sensation was very well shown. Mr. A. Coombe was first, Mr. J. Cranford second, and Mr. C. J. Waite third. Messrs. Sutton & Sons provided the prizes in five different classes. For a brace of Cucumbers Mr. A. E. D. Darby was first for a good brace of Matchless, Mr. H. Forder being second, and Mr. J. Hathaway third. With a dish of Tomatoes the competition was very keen. Mr. T. Pye was first, Mr. C. J. Waite second, and Mr. G. Squibbs third, all having perfect dishes of Sutton's Perfection. The winners with Peas were Messrs. W. Pope, T. Wilkins, and T. Meares, and with Carrots W. Pope and W. Dawes, who took the prizes in the order named. Quite a large number of Melons were shown, Messrs. H. Forder, J. Bates (gardener to J. T. Harris, Esq.), and T. Wilkins taking the prizes as named. Messrs. Carter and Co. provided liberal prizes for their specialities in the way of Beans, Tomatoes and Melons, and these were well competed for, but the names of the respective prizewinners could not be ascertained when this report was taken. Messrs. Thomson & Co., Birmingham, were also donors of special prizes for a collection of six varieties of vegetables, and with these Mr. T. Smeatham was first, Mr. J. Newell (gardener to G. H. Kenrick, Esq.), second, and Mr. Coombs third. Mr. Robert Sydenham, Birmingham, likewise offered prizes for a collection of vegetables, and in this instance and also in the cases of special prizes offered by Messrs. W. Clibran, the Judges overlooked the classes for a considerable time, the judging not being completed when the tents were thrown open to a crush of exhibitors and visitors.

MISCELLANEOUS.

The honorary exhibits staged were of a very meritorious character, and in sufficient numbers to form a fine exhibition by themselves, the local nurserymen always staging fine displays. The following medals were awarded to their exhibits—viz., a gold medal to Messrs. Sutton and Sons, Reading, for a grand display of their new Gloxinias, including Her Majesty, Duke of York, Empress of India, Souvenir de Shrewsbury, and Purple Prince, to which certificates were awarded. A silver medal to the Liverpool Horticultural Company for a superb display of floral designs. Silver medals also to Messrs. Cutbush & Son, London, for a collection of plants; to Mr. B. R. Davis, Yeovil, for Begonia blooms; to Messrs. Hewitt & Co., Birmingham, for a collection of plants and cut flowers; to Messrs. Thomson & Co., Birmingham, for 500 blooms of Carnations and Picotees; to Messrs. Hy. Cannell & Sons, Swanley, for Begonia blooms, Caetus, and other Dahlias; to Mr. Blair, Trentham, for twelve Pines. Bronze medals to Mr. John Price, Rhyl, and Messrs. Lee and Co., Shrewsbury, for collections of fruit; and a special prize to Mr. Wallis, Keele Hall, for five dishes of Figs.

Certificates went to Mr. E. Murrell, nurseryman, Shrewsbury, for a fine lot of Roses, plants, and cut flowers. First and silver medal was awarded last year, and no exhibitor can take one two years in succession, to Mr. Hy. Eekford, Wem, for new Sweet Peas; to Mr. A. Myers, Shrewsbury, for a collection of plants; to Messrs. Birkenhead, Sale, for new and rare Ferns (medal last year), also to Messrs. Kelway & Son for a very fine collection of Gladioli (medal last year), but first class certificates also to new Gladioli, Sarah Bernhardt, Unionist and Nauteh Girl; to Messrs. Dieksons, Limited, for plants and cut flowers; to Messrs. Keynes, Williams & Co., for new Cactus Dahlia Mars; to Messrs. Sutton and Sons, for new winter blooming Begonias; to Mr. Charles Turner, Slough, for Carnations and Picotees; to Mr. Hy. Pattison, Shrewsbury, for Violas; to Messrs. Thomson & Co., Birmingham, for seedling salmon self Carnation Mrs. J. Chamberlain.

Amongst Messrs. Cannell & Sons' new Caetus Dahlias the following were very fine and distinct:—Ernest Cannell, bright orange; Robert Cannell, bright earmine rose; Mrs. Douglas, shaded fawn and rose, and bright; Duke of Clarence, shaded crimson, all of the Juarez type, and with these was Canna Louise Chrétien, orange, beautifully spotted with brownish red.

On the first day 15,000 persons were present, and over 40,000 on the second. The great Exhibition is admirably managed by Messrs. Adnitt and Naunton, the Hon. Secretaries, and the Committee had the work ready for the Judges soon after ten o'clock.

CARDIFF.—AUGUST 17TH AND 18TH.

THE annual Show of this Society was held at Cardiff on the above dates, and was admitted on all sides to be the best ever held in the town, if not in South Wales. The district is well suited for the growth and maturing of fruit, vegetables, and flowers, and it is evident that the art of culture is being better attended to year by year. The exhibits were set out in a series of eight or nine large tents, arranged within the Sophia Garden, the lawn of which afforded most grateful walking ground for visitors, while the avenues of well foliaged trees furnished delightful shade, which was much appreciated in the sunshine and heat with which the Show was favoured.

The tent set apart for the open classes, where the competition was practically limited to nurserymen, proved a great attraction to connoisseurs. The principal honours in this department were carried off by Mr. Cypher of Cheltenham. In the class for twelve stove and greenhouse plants he was first with very fine specimens of *Ixora amabilis*, *Franeiscea calycina major*, *Allamanda Hendersoni*, *Erica Uriana*, *Clerodendron Balfourianum*, *Anthurium Andreanum*, *Erica Jacksoni*, *E. Marnoeckiana*, *Stephanotis floribunda*, *Rondeletia speciosa major*,

Ixora Pilgrimi, and *E. Austiniana*. These plants were compact in growth, thoroughly flowered, and in the best condition possible. Messrs. W. Heath & Son, Cheltenham, were second with good plants of *Allamanda grandiflora*, *Statice profusa*, *Phoenocoma prolifera Barnesi*, and similar plants of other varieties. In the class for eight fine-foliaged plants Mr. Cypher's first prize collection embraced splendid plants of *Croton Chelsoni*, *C. Newmani*, *Dasyllirion aerotrichum*, *Pritchardia pacifica*, *Kentia Belmoreana*, *K. australis*, and *Cycas revoluta*. Messrs. Heath & Son were second with large plants, principally Palms and Crotons.

In the class for six Fuchsias, Mr. T. Clarke, gardener to Col. Sir E. Hill, Cardiff, was first with magnificent plants in fine bloom, comprising *Beaconsfield*, *Display*, *Mrs. Rundell*, *Charming*, *Thomas King*, and *Rose of Castile*. The second prize specimens, exhibited by F. Hillard, Esq., Cardiff, were good, but not of such fine varieties. For six Zonal Pelargoniums Mr. Hillard was first with large, well-flowered, flat-trained plants, perfect in foliage, the varieties being *Mark Twain*, *Madame Leon Dolloy*, *F. V. Raspail*, *Eureka*, *Wonderful*, and *Minnie Parker*. Mr. T. Clarke was second with similar plants but not quite so well flowered. For eight exotic Ferns, Mr. Malpas, gardener to Mr. C. E. Jenkins, Pen-y-lan, Cardiff, was first with excellent plants of *Adiantum euncatum*, *A. cardiochloena*, *A. gracillimum*, *A. amabile*, *Gymnogramma chrysophylla*, *Woodwardia radicans*, *Davallia Mooreana*, and *Dicksonia antaretica*. Mr. Clarke was second. With twelve Begonias (Tuberous), Mr. Jenkins was first, having a fine assortment of singles and doubles, and Mr. Evan Lewis, Llandaff, was second with plants little inferior to the others.

Mr. Cypher was first with four Orchids, having good pieces of *Cattleya Gaskelliana*, *Odontoglossum Harryana*, *Cattleya gigas*, and *Phalaenopsis Schröderiana*, and Messrs. Heath & Sons second.

In the tent for plants confined to amateurs a large number of excellently grown specimens were shown. In the class for four stove or greenhouse plants in bloom, distinct varieties, there was good competition, and Mr. Jenkins was first with evenly balanced plants of *Plumbago capensis*, *Clerodendron Balfourianum*, *Allamanda Hendersoni*, and *Vallota purpurea*. Mr. Currey, Salisbury, was second with good plants. For four fine-foliage plants Mr. A. Pettigrew, gardener to the Marquis of Bute, Cardiff Castle, was first with *Cycas revoluta*, *Croton interruptum*, *C. majestieum*, and *Phoenix compacta*. Mr. Jenkins was second; and Mr. Hockey, gardener to Col. Page, third. For four Fuchsias Mr. Hillard, sen., was first with large well-flowered plants; and Mr. T. Clarke second.

An interesting and successful feature in the plant department was the tent containing the groups of miscellaneous plants arranged for effect, occupying spaces of 100, 50, and 25 square feet respectively. The 100 feet groups were arranged in circular form down the centre of the tent, and the 50 feet and 25 feet groups were placed along the sides. Of the half dozen 100 feet lots the first prize was awarded to that of Mr. Currey, Salisbury, which was a very neat low group of plants, many of them being common hardy border flowers, such as *Liliums*, *Gladioli*, *Campanula pyramidalis*, with *Crotons*, *Orchid*, and *Maidenhair Fern* for a groundwork. The group was light and open, and every plant was shown well. The second prize was awarded to Mr. Case, florist, Cardiff, for a very neat group, made up of Palm in the centre, with *Maidenhair Ferns*, *Caladiums*, *Crotons*, *Cockscombs*, and other plants. For the groups of 50 feet Mr. Clarke was first with a handsome arrangement, consisting chiefly of *Crotons*, *Oneidiums*, *Gloxinias*, and *Tuberous Begonias*, edged with *Maidenhair Fern*. Col. Page was a good second, and Mr. A. Pettigrew third. In the group of 25 feet Mr. C. Waldron, Llandaff, was first with a bright little group, consisting of *Coleus*, *Dracæna*, and *Caladiums*, lit up with flowering plants of *Tuberous Begonias*, *Gloxinias*, &c. Mr. Evan Lewis was second with a group consisting chiefly of flowering plants; and Mr. Marcus Gunn, Llandaff, third. The silver medal for the exhibit showing the highest cultural skill was awarded to Mr. A. Pettigrew for his 100-feet group, which was made up of valuable plants, though less showy in the mass than some of the others. The groups altogether made a splendid display, and were much admired by non-professional visitors and gardeners.

In the department of cut flowers the Show was of marked excellence. The Roses in the open classes were a feature in themselves, such as we have rarely witnessed. Mr. Stephen Treseder, nurseryman, Cardiff, who literally swept the boards in all the classes, was awarded the premier prize for twelve H.P. distinct varieties, three blooms of each, with a stand comprising *Mrs. John Laing*, *Duke of Wellington*, *Dr. Andry*, *Earl of Dufferin*, *La France*, *Auguste Rigotard*, *Victor Hugo*, *La Duchesse de Morny*, *Silver Queen*, *A. K. Williams*, and *Charles Lefehvre*. Messrs. D. & W. Croll, nurserymen, Dundee, who have established a reputation as Rose growers in the north, were second with a good stand, but the flowers were lacking in size and colour. Mr. Treseder's first prize stand of Tea Roses were splendid. It is rarely that such perfect blooms are to be seen at this season, and many of the individual flowers were amongst the best seen this year. The varieties were *Marie Van Houtte*, *Madame Lambard*, *Franeiscea Krüger*, *Hon. Edith Gifford*, *Comtesse de Nadaillac*, *Ernest Metz*, *Souvenir de S. A. Prince*, *Anna Ollivier*, *Madame Hoste*, *The Bride*, *Catherine Mermet*, and *Innocente Pirola*. The English Fruit and Rose Company (Cranston, Limited), Hereford, were second with a very fine stand, in which the blooms were smaller and rougher. Mr. Treseder's first prize stand of twenty-four H.P. Roses were as follows:—*Countess of Oxford*, *Duchess of Bedford*, *Heinrich Schultheis*, *D. Lamy*, *La France*, *Ulrich Brunner*, *Mrs. John Laing*, *Alfred Colomb*, *Général Jacqueminot*, *Marquise de Castellane*,

Marshal P. Wilder, Dr. Andry, Prince Arthur, Duchess of Albany, Charles Lefebvre, Duchesse de Morny (perhaps the weakest flower in the stand), John Stuart Mill, Lord Macaulay, Baron Hausmann, Prince C. de Rohan, Marie Baumann, Mons. E. Y. Teas, Merveille de Lyon, and Madame Victor Verdier. In this class Mr. Ralph Crossling, nurseryman, Penarth, was second with blooms little inferior to those in the first prize stand. For eighteen Tea Roses Mr. Treseder again took the leading position, and Mr. Crossling was second.

The boxes of annuals and perennials were exceedingly good. In the amateurs' classes the Roses were of fair quality, as were also the Dahlias, Asters, &c. A special note may be made of the twelve bunches of annuals, for which Mr. A. Pettigrew took the first prize with a beautiful stand, embracing *Zinnia elegans*, *Centaurea Cyanus*, *Malope grandiflora*, *Bartonia aurea*, *Calliopsis Drummondii*, *Phlox Drummondii*, *Godetia Whitneyi*, Sweet Peas, purple Candytuft, Iceland Poppy (though a perennial it is grown and treated as an annual), dark dwarf Scabious, and mixed *Salpiglossis*. Mr. Woodgate, Cardiff, was second. In the class for twelve bunches hardy herbaceous perennials Mr. Sheering, Llandaff, was placed first with a stand embracing Roses, Dahlias, Lilliums, *Helianthus*, *Gaillardia*, *Pyrethrum*, *Coreopsis*, *Gladioli*, Iceland Poppies, two bunches of Carnations, and Everlasting Peas. The collection to which the second prize was awarded contained Roses and Hydrangea. It is not often that judges make such a slip as to pass Roses and Hydrangeas as herbaceous plants, and we understand a protest has been lodged. Messrs. Clibran & Son, nurserymen, Manchester, showed an excellent collection of cut herbaceous flowers, amongst them being the new *Tropæolum* Mrs. Clibran, which was much admired. The Judges awarded a high commendation for the collection. Visitors were much interested in the competition for dinner table decorations. Tables 8 feet by 4 feet were completely arranged with fruits and flowers, and laid for eight persons. The first prize was awarded to Mr. Phelps, florist, Cardiff. The wreaths, crosses, and bouquets showed an immense advance on those that used to be exhibited a few years ago. They were really splendid. Mr. A. Ellis, Mr. Case, Mr. W. Treseder, and Mr. Philips were the principal prizetakers.

The fruit tent was one of the best in the Show. Taken as a whole the exhibition of fruit for extent and quality has never been equalled in Cardiff. The Grapes formed a magnificent class. We may have seen even this season better single bunches than any that were in the Show, but in the large collection, which covered two tables the whole length of the tent, there were few inferior lots, and many of great excellence and in splendid bloom. Amongst the principal prizetakers were Mr. T. M. Franklin, St. Hilary, near Cowbridge; Col. Gaskell, Caerleon, Mon.; Mr. C. A. Hywood, Penarth; Mr. Vincent Stuckey, Langport; Capt. Marling, Lydney; and Miss Pieton, Tuberville, Ewenny Priory. The pot Vines, for which Mr. A. Pettigrew was awarded first prize with their hanging bunches of well coloured fruit, excited much interest. The Melons were very good. The prize for the best flavoured fruit was awarded to Mr. James Lloyd, gardener to Mr. Vincent Stuckey, for a handsome Melon of his own raising, a cross between Hero of Lockinge and Longleat Perfection. It was one of the best we have tasted this season, and no doubt will come to the front.

It is evident that the visit of the British Fruit Growers' Association to Cardiff last year has given an impetus to hardy fruit growing in the district, as there was strong competition in all classes. In the class for culinary Apples there were seventy-two dishes shown, and the first prize was awarded to Colonel Page's exhibit, which comprised Peasgood's Nonesuch, Emperor Alexander, Nelson's Glory, New Hawthornden, South Carolina Pippin, and Lord Suffield. Seventy-six competed in the class for dessert Apples, and Colonel Page was again first with Worcester Pearmain, Early Harvest, Duchess of Odenburg, Early Transparent, Irish Peach, and Early Margaret.

Vegetables in the open classes were splendid, Potatoes, Turnips, Carrots, Onions, Leeks, Cauliflowers, and Scarlet Runners being particularly good, and not much inferior were the lots shown in the cottagers' tent, which was filled with most meritorious collections of all sorts of vegetables, such as probably could not be surpassed in any cottage competition in the kingdom.

BASINGSTOKE.—AUGUST 18TH.

THIS North Hampshire Exhibition was held in the splendidly timbered area of Hackwood Park, situate about a mile from Basingstoke, the grounds being generously placed at the Committee's disposal by Charles Hoare, Esq., who is at present occupying this noble demesne, but which is the property of Lord Bolton. Everything looked full of promise for the Show, for the opening weather was delightful; but later rain began to fall, and it came down mercilessly until late at night, totally destroying all hope of a financial success, and it was all the more deplorable, not only that this was the third consecutive wet Show day, but also that in the adjoining town business was suspended at two o'clock to enable everybody to visit the Show. As it was the Committee, finding the intending visitors could not come, broke up the Show early, and the exhibits were loaded and gone an hour before the usual time.

As to the Show itself, it was one of the best perhaps the Society has held, for if some plants were wanting, other objects were superior. In the class for twelve stove and greenhouse plants, Mr. Bowerman, gardener to C. Hoare, Esq., Hackwood, was well first, for his exhibits were good and clean. His flowering plants were *Allamandas cathartica* and *Wardleana*, *Clerodendrons Balfourianum*, *Thompsoni*, and *fallax*, *Bougainvillea glabra* and *Dipladenia boliviensis*; and his foliage plants

were a fine *Alocasia*, two good *Crotons*, and two good Palms. Mr. Russell, gardener to W. Bradshaw, Esq., Audley, was second, having a fine *Eucharis amazonica*, and *Clerodendron fallax*. The latter was a good first with twelve specimen flowering plants, having a splendid *Eucharis* carrying thirty heads of bloom and fully seventy expanded flowers. Mr. Bowerman was second with a capital *Allamanda Hendersoni*. The latter was first with a specimen foliage plant, having a superbly coloured Queen Victoria *Croton* 5 feet across. Mr. Weaver, gardener to W. P. Gilchrist, Esq., Oakley Hall, was first with six foliage plants, and Mr. Russell was second. Mr. Weaver was first also with six Ferns, very fine clumps of *Adiantum gracillimum*, *concinnum latum* and *colpodes*, *Pteris longifolia*, *Alsophila excelsa*, and *Asplenium bulbiferum*. Mr. Kneller, gardener to W. Portal, Esq., Malshanger Park, had the best six hardy Ferns; Mr. A. Tripp, gardener to Mrs. Field, Goldings, being second. The decorative groups are always a strong as well as severely contested class here, but one old competitor has fallen out. On this occasion the contest chiefly laid between Mr. Weaver, who has frequently been first, and Mr. Bowerman, and although matters were pretty even on this occasion, yet Mr. Weaver had rather the best arrangement and was placed first, Mr. Bowerman second, and Mr. Southcote, gardener to Captain Oldfield, third. Generally the competitors had too many top or dress plants. Rather fewer of these and more attention to perfection in carpeting the base would improve the groups. Fuchsias from Mr. Russell were very fine, being noble pyramids 8 feet in height. They were Charming, Princess Victoria, Venus de Medici, and one unnamed. Mr. Weaver had the best four Zonal Pelargoniums, fine plants of Mrs. Gladstone, F. Barton, Constance, and Muriel. Mr. Southcote had the best four Coleuses, fine 6 feet pyramids, well foliaged and coloured. Mr. Holloway had the best twelve stove and greenhouse plants in another class, and the best six clumps of *Achimenes*, but we cannot notice other plant classes. Cut flowers were very good, the dressed stands from Miss Owen, Basingstoke, and Miss Flight were charming. Mr. Flight had the best twelve Dahlias, and also twelve Roses, whilst Mr. Kneller had the best Quilled Asters, and Mr. Munday the best French Asters.

Fruit was very good, the best collection, comprising good Muscat of Alexandria and Black Hamburg Grapes, Dymond Peaches, Humboldt Nectarines, Turkey Figs, Melons, Apricots, and Plums, was set up by Mr. Bowerman; Mr. Osman, gardener to L. J. Baker, Esq., Chertsey, coming second. Mr. Osman had the best black Grapes in good Hamburgs, and Mr. Bowerman in the any other black class was first with excellent Gros Maroc; Mr. Osman being second with Alicante. The latter was first in whites with Muscat of Alexandria and in another class with Buckland Sweetwater. Mr. Best, gardener to Mrs. Chate, The Vine, had the best Melons in both classes; very good flavour, a long way before some of the wretched new ones put in for certificates. Mr. Bowerman had beautiful Peaches in *Violette Hâtive* and the best Nectarines in Pineapple. Mr. Best had good Apricots in Moor Park, and the three best cooking Apples in Lord Suffield, Warner's King, and New Hawthornden. Mr. Kneller was first with dessert varieties, having Beauty of Bath, small but very handsome; Red Astrachan, and Mr. Gladstone. Mr. Bowerman was first with Plums, having Washington, Early Orleans, and Belgian Purple. Mr. Kneller had the best twelve Tomatoes, very handsome; but in another class some large ungainly fruits were unaccountably placed first. Cucumbers Sutton's Matchless were capital shown by Messrs. Russell and Bowerman.

Very beautiful indeed were the nine dishes of Potatoes shown by Mr. Lye, gardener to W. H. Kingsmill, Esq., Sydmonton Court. These were in the very best exhibition form, and comprised Mr. Bresee, Prizetaker, Reading Russet, Vicar of Laleham, Puritan, Victory, Windsor Castle, Lord Tennyson, and Satisfaction. Mr. Lye was also first in Messrs. Sutton & Sons' class for six vegetables, having very fine Autumn Giant Cauliflowers, Satisfaction Potatoes, very handsome Excelsior Onions, Duke of Albany Peas, Solid White Celery, and Tomatoes. Mr. Bowerman was second, but was first in the Messrs. Webb's class, also for six vegetables, having very large Ailsa Craig Onions, Cauliflowers, Matchless Carrots, Sensation Tomatoes, Satisfaction Potatoes, and Duke of Albany Peas. Mr. Lye was second. Mr. Lye was first in a similar class for prizes given by Messrs. Jas. Carter & Co., having here handsome Potatoes, The Canon, with other vegetables. Messrs. Sutton & Sons of Reading exhibited a fine collection of Gloxinias, including the beautiful white Her Majesty. Mr. Phippen of Reading also sent a pretty group of ornamental plants, with wreaths and other floral devices. Messrs. Cannell & Sons sent bunches of their new Cactus Dahlias.

The Judges and Committee partook of an excellent luncheon, generously provided in the fine dining-room of the mansion, during the day, Mr. Kingdon, ex-Mayor of Basingstoke, presiding in the unavoidable absence of Mr. Hoare.

NATIONAL CO-OPERATIVE.—AUGUST 20TH.

THIS year's great gathering of co-operators at the Crystal Palace on August 20th was as imposing as ever in its main features, but the horticultural Exhibition appeared to be hardly so extensive as usual. Whether the season has proved too adverse, or there are other causes at work, it is impossible to say; certainly there did not appear to be quite so much competition as usual. Whether this impression be an accurate one or not—and it is a point that statistics may be left to settle—there is no falling off in the quality of the exhibits; on the contrary, it is gratifying to note a decided advance on former years in this respect. Vegetables in particular were better than they have ever been shown before at these gatherings, which shows that the

co-operative cultivators are profiting by experience. A lack of cleanness was still observable in the case of a few kinds, but in the majority there is all-round high quality to record.

It would not be of much interest to give full details of the awards, as the exhibitors are mostly cottagers; but it may be of interest to indicate a few points in connection with the exhibits. Beans taken as a whole were excellent, Runners being very good, French creditable, and Long Pods moderate. Beet was mostly of high quality, but some of the roots were coarse and fibry. Cabbages were very good indeed, including red varieties. Carrots were extremely good, the Horn varieties being perhaps the best. The prize exhibits of Intermediate were excellent. Cauliflowers were very fine, though perhaps a little inclined to coarseness. Celery was very good as a whole, and there were some fine sticks included, showing that some of the cottagers understand the culture of this useful vegetable as well as anyone. Cucumbers were extensively and well shown. Leeks were not large, but well blanched. Cos and Cabbage Lettuces were only fair on the whole, lacking cleanness. Of Onions there was an extensive display, which included some very good produce. In Parsnips there was an inclination to coarseness, but Peas were splendidly shown. There were scores of dishes, and many of the pods were very fine indeed. Potatoes were divided into four classes, white and coloured kidneys and white and coloured rounds. There was an enormous quantity of them, including some very fine dishes. It is noteworthy that the exhibitors have secured some of the leading show varieties. Radishes and Shallots were fair, Tomatoes and Turnips very good; the former, though not sensational, being of satisfactory average quality. There was an enormous number of Vegetable Marrows, and as a whole they were excellent.

Fruit was hardly so well shown as usual, but the season is rather late. Small fruits were fair, Plums good. There was as usual a very extensive display of cut flowers. Taking into consideration that the greater bulk of the produce has been grown by cottagers, the Show must be classed as an excellent one. There was a large attendance on the opening day, when many special attractions were added to that of the Show. The arrangements were well carried out by Mr. W. Broomhall. The Managing Director, Mr. Edward Owen Greening, who has been the leading spirit in these great gatherings, continues to manage them with his usual tact and energy.



FRUIT FORCING.

Pines.—*Potting Rooted Suckers.*—Those obtained from the summer-fruiting plants and potted some little time ago will soon be ready to shift into larger pots. It is well, however, to divide the plants into two batches; one, the strongest, should be shifted into their fruiting pots as soon as ready, employing 10 or 11-inch pots, according to kind; the smaller size for Queens, affording them a position near the glass in a light airy house, where they can be kept gently growing through the winter. The plants treated in that manner will be readily excited into fruit next May or June, and will afford a good successional supply of ripe fruit in late summer or early autumn. The other plants—suckers from the summer fruiters—not large enough to shift into fruiting pots winter best in 7 or 8-inch pots, transferring them to larger ones as soon as ready in spring, which, with suckers of Smooth-leaved Cayenne that were started last March, will afford a successional supply of ripe fruit through the winter months.

Re-arranging Plants.—About this time a re-arrangement should be made in order to secure the best conditions for them, separating the non-fruiting from the fruiting, as many of those started from suckers of last summer's fruiting plants will have fruits swelling. These must have the best position possible, so as to insure the fruit finishing well. Those plants not fruiting will have completed their growth, and should have air very liberally for the next six weeks, when the temperature exceeds 80°, maintaining the bottom heat steady at 80°, and all well-established well-rooted plants should have a bottom heat of 80° to 85°. Recently potted suckers, or those not having roots well established in the fresh compost, should have a bottom heat of 90°, so as to accelerate the free emission of roots.

Fruiting Plants.—Moderate atmospheric moisture is essential to the swelling of the fruit, but a close atmosphere unduly enlarges the crowns, and the sun acting powerfully on the fruits while damp, causes their discolouration; therefore admit a little air at the top of the house early in the morning, so as to allow of any superfluous moisture escaping before the sun's rays act powerfully or directly upon the fruit. Any fruit it is desired to retard should be moved to a cool or shady house, affording abundance of air.

Figs.—*Earliest Forced Trees.*—The earliest trees in pots may be placed outside if the wood be ripe; but if there is any doubt about it the trees must be continued under glass with a free circulation of air. These are matters on which the cultivator will need to exercise judgment. In either case the trees must not suffer for water at the roots, and any roots that have extended beyond the pots should be cut off, affording water only to keep the foliage fresh.

The earliest forced planted-out trees will now be ripening their wood, and watering may be discontinued, air being given very liberally. If, however, the second crop is not yet ripened moderate moisture in the soil will be necessary, with a free circulation of air to insure high quality in the fruit. When the fruit is all gathered the wood not further required should be cut away in favour of the successional growths, and these being allowed to point towards the light will become well matured at their extremities, which is vital to a full first crop another season.

Trees Unsatisfactory.—If any of those planted out in houses grow too rampantly, and produce thin crops in consequence, root-pruning should be resorted to, and the roots confined to a narrow border from 3 to 4 feet in width. But to secure a first crop of fruit another season it is necessary to accelerate and thoroughly ripen the wood. Trees, therefore, which are unsatisfactory in cropping, should have a trench made as deeply as the roots at a distance of 3 or 4 feet from the stem, and all the roots being detached, the tendency to a late growth will be checked, and the vital forces will be concentrated on the growths, so that the wood will ripen, particularly if the growths are thinly disposed, and the points of the shoots, instead of being very closely tied in, are allowed to grow up to the glass. This will induce the formation of embryonic Figs instead of wood buds, and should be attended to as soon as the fruit is gathered. The trees may be lifted as soon as the leaves give indications of falling, replanting in fresh soil. If the drainage be defective, place in 12 inches of rather rough brick rubbish, and a 3-inch layer of the rougher parts of old mortar rubbish, using the finer parts for mixing with the compost. This may consist of turfy loam of a calcareous nature, or have one-sixth of old mortar rubbish mixed with it, and in replanting ram the compost, thoroughly incorporated, well amongst the roots, for short-jointed wood cannot so well be secured by other means as by a compact soil. The border should be 24 inches deep, or, if the trellis space is small, the width or depth of the border should be proportionately less. Where the drainage is efficient and the border in good order, it will only be necessary to confine the roots to the narrow border, removing some of the old soil from amongst the roots, relaying them in fresh loam, or the old, with an addition of old mortar rubbish, well solidified.

Late Houses.—The fruit on trees in wall cases ripens about this time and in September, and is generally superior to outdoor fruit, which is seriously hampered by wet in some seasons at the time dryness is necessary to secure high flavour and keep the fruit from decaying. In a large house, and with the roots confined so as to secure sturdy, thoroughly solidified and well ripened growths, Brunswick is a very fine Fig, but it grows too luxuriantly for small houses. Similar remarks apply to Negro Largo, which is a very fine large fruit of good quality, and succeeds Brunswick. White Marseilles precedes Brown Turkey in ripening. These are the best Figs for general purposes, and when well grown and ripened are excellent in quality. The great point to aim at is sturdy growths, which are best secured by keeping them thin, and the roots restricted to a border of compact materials. Unless thoroughly solidified growths are made, with short-jointed and well ripened wood, it is useless expecting abundant crops of fine fruit. Keep up a circulation of air constantly, expose the fruit as much as possible to the sun, but if red spider be troublesome syringe on a fine morning after a close picking of the fruit, and afford no more water at the roots than sufficient to keep the foliage in health. If the trees are too luxuriant and the wood does not ripen well treat them as advised for unsatisfactory trees.

Melons.—*Plants in Houses.*—As the days are shorter lessened supplies of water will be required, yet give sufficient to keep the soil in a moist condition whilst the fruit is swelling. After it has ceased swelling afford no more water than suffices to prevent the foliage flagging. Keep the laterals stopped to one leaf of successional growth, rub off all superfluous shoots as they show, thin the laterals where too crowded, not allowing these to interfere with the principal leaves or to retard the swelling of the fruit. Plants with fruit advanced for ripening should be kept drier at the roots and have air liberally, avoiding a close atmosphere, as that frequently results in the fruit cracking and generally causes the flavour to be inferior. The night temperature should be maintained at 65° to 70°, 70° to 75° by day artificially, and 10° to 15° rise from sun heat.

Latest Plants in Houses.—In some establishments the latest batch of plants are not put out until the end of this month or the beginning of next to afford a supply of fruit about Martinmas, but the plants are generally strong from a late July sowing, and fruit with little delay. They are usually trained with a single stem two-thirds up the trellis without stopping, and every other lateral being rubbed off on opposite sides of the stem fruit is shown freely on the first laterals at the second or third joint. By carefully fertilising the pistillate with the staminate blossoms the fruit sets freely in a rather dry and warm atmosphere, and by afterwards maintaining a temperature of 70° to 75° by artificial means the fruit swells rapidly, the bottom heat being kept steady at 80° to 85°, and the atmosphere moderately moist. Excessive moisture, however, is apt to cause the plants to canker at the collar and in the stem, and must be guarded against, rubbing quicklime into any affected parts.

Plants in Pits and Frames.—The latest plants have the fruit set and swelling freely, and will be better for good linings, so as to insure steady progress and the free admission of air. Those in hot-water heated pits will be the better for a gentle warmth in the pipes on cold nights and dull wet days. Gentle heat affords facilities for ventilation,

a little being given to insure evaporation and the consequent elaboration of the sap. The plants may be sprinkled over the foliage early on fine afternoons, avoiding the stems or collars, and closing before the temperature has receded to 80°, so as to raise the temperature to 90° or 95°. Admit a little air at 75°, increase it with the increasing sun heat, and keep through the day at 85° or 90° by that means. Employ coverings over the lights on cold nights.

THE BEE-KEEPER.

APIARIAN NOTES.

FERTILE WORKERS—WHAT ARE THEY?

SOME people deny the existence of fertile workers, others say that workers develop their reproductive organs when in their adult state and become egg layers, while others assert that some bees, if not all of them, have the power of mating. All of these propositions are errors. No worker bee is capable of mating, and no one has the power of developing her reproductive organs while in the pupa state nor after she has crept from the cell. It is the food given by the nurse bee and the location of heat, together with the enlarged cell, and these things only, that give the insect, whether queen or worker, the power to lay eggs. The most conclusive proof, and a beautiful example of a fertile worker proper, was an Italian Alp bee, bred contiguous to a queen cell, the two being the only ones in the piece of comb given to a queenless hive of bees, the queen in this case being lost. The bee laid eggs that produced beautifully marked Italian drones. I watched this bee after receiving court from the other bees and depositing eggs.

Queens, perfect and imperfect, but which are drone-producers, are termed by some of our modernists fertile workers, which is also an error. Many imperfect queens have little resemblance to perfect ones, but have all, more or less, the distinguishing marks, although not highly developed. Fertile workers proper in no respect resemble queens. Some imperfect queens mate like perfect ones, although in appearance they are, to casual observers, workers only; but these queens never survive long while others never seek to mate, and often begin laying eggs shortly after birth. I had several of that sort this year. One very puny young queen might easily have been passed over for a worker amongst them, for she could scarcely be distinguished, and years ago I had similar experience.

All the queen cells raised by drone-producing queens or fertile workers produced nothing but drones, the cells of which could not be detected from queen cells. The foregoing is the result of my experience and observation. Will "Hallamshire Bee-keeper" explain how a worker bee can become a producer of worker bees and queens?

THE HEATHER-VOLES.

I am now at the Heather with my bees anxiously waiting for some sunshine to open the Heather, which, owing to the rainy season, is very late, and to the destruction by the voles, is not fine this year. It is scarcely worth repeating, but when we see teachers telling the people that rain is good for producing fine Heather it is the weak link we judge them by. The voles spoken of are very destructive to pasture of all kinds, and large tracts of Heather are spoiled by them. Cats and dogs that eat them become diseased, which I am inclined to think arises from the formation of the indigestible fur; but not having my microscope at hand I could not examine them closely. The head is large, the hind feet have five, and the fore ones four, toes; the tail is short. With such traps as were noticed in your columns lately the country could soon be rid of them. They migrate readily to places of plenty and comfort. Although the papers made a burlesque of catching a number in a short time in a bottle thrown by accident upon the line, it was a valuable hint for exterminating pests. Voles are getting more numerous every year, and as they take to the water readily they may become a pest in more ways than one.—A LANARKSHIRE BEE-KEEPER.

PRODUCING BETTER BEES.

I HAVE been quite interested in Mr. Giles' suggestions about obtaining a better bee by crossing some of the different races or varieties now known to us.

The so-called Punic or African bee, if it possesses even a part of the good qualities ascribed to it, might perhaps be crossed in the Italians, so as to give us substantially a new variety having the desirable qualities of both its parent races.

What friend of the Italians would not be overjoyed if he could give to them the same readiness (I might even say eagerness) for working in supers so characteristic of the black or German bee, and the same power of sealing over their honey with such exquisitely white cappings? Yet nothing of this kind has been brought to pass, in spite of innumerable crossings between the two races.

Those who have read my observations on the only colony of Punic bees I have yet seen, know that I certainly found in them some peculiarities which do not belong to the common black race, and I would advise those who have crosses between the yellow varieties and these bees to give them the closest attention.

I cannot agree with Mr. Giles that there is any promising outlook for breeding a race of stingless bees. Rats, mice, and most of the vermin race love honey, so do birds of various kinds, and bipeds of the human kind are often tempted to steal it.

Now what defence could such a puny insect as a honey bee make against the vast hosts of its sweet-loving enemies if it had not such a formidable weapon as its venomous sting?

A little time spent upon pondering this question would soon satisfy anyone that we are never likely to see a stingless race of honey bees.—L. L. LANGSTROTH, Dayton, Ohio (in "The Apiculturist.")

TRADE CATALOGUES RECEIVED.

- Mr. W. Bull, 536, King's Road, Chelsea, London, S.W.—*Bulbs*.
Messrs. J. Carter & Co., 237 and 238, High Holborn, London.—*Bulbs*.
Mr. C. W. Cousins, 13, High Street, London, N.—*Bulbs*.
Mr. W. Cullingford, Eastern Road, Plaistow, London, E.—*Garden Netting*.
Messrs. Dicksons, Limited, Chester.—*Bulbs*.
Messrs. E. P. Dixon & Sons, Hull.—*Bulbs*.
Messrs. Dobie & Mason, 22, Oak Street, Manchester.—*Bulbs*.
Messrs. Fletcher, Douglas & Johnson, New Square, Chesterfield.—*Bulbs*.
Messrs. Herb & Wulle, Naples, Italy.—*Bulbs*.
Messrs. J. Laing & Sons, Forest Hill, London, S.E.—*Bulbs*.
Messrs. W. Paul & Son, Waltham Cross.—*Bulbs*.



* * * All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Photographs (W. G. G.).—We have received three photographs. Please send us a few particulars about them.

Sweet Mace (Mace).—The flowering specimen arrived as we were preparing for press, and after the insertion of a note on the subject in another column, which see.

Heating with Gas (S. J. A.).—We have not taken any records relative to the consumption of gas for heating glass structures. Something depends on the apparatus, and a good deal on the burner. Though no one can state with any precision the cost of heating a house without knowing its height, as well as other dimensions, also the area of glass exposure, we publish your letter in another column in case any of our readers can give information, founded on practice, on heating with gas.

Grubs and Endive (Bob Smith).—You cannot do better than remove the soil from around the plants, and spread round them in its place a good thickness of wood ashes and soot. Watering with a mixture of soapsuds and petrolcum is said to act as a deterrent, about a wineglassful of the oil in 3 or 4 gallons of the suds, stirring well at the time of using, and not pouring it over the leaves. A heavy dressing of lime would do your land good, or a light one of gas lime, but you had better write for particulars later in the season.

Apple Tree Cankered (*A. M.*).—The branches are seriously affected with canker. The roots of the tree are in an ungenial medium. The soil is either too wet or deficient in the essentials for healthy growth. The affected parts should be cut out now, and just before the leaves fall much of the old soil should be cleared from the roots, those which strike down into the subsoil cut off, and fresh loam, containing calcareous matter and wood ashes, placed round the others, made firm, and mulched, then healthier growth may be expected. The Apple is the Early Julyan, a useful summer cooking variety.

Eucharis as a Fine-foliage Plant (*A. Waters*).—For purposes of exhibition the term "ornamental foliage plant" has reference to plants that are cultivated for the beauty of their leaves, and not of the flowers. Eucharises are grown for the beauty of their flowers, and not of their leaves, and we should not consider a non-flowering plant of Eucharis amazonica admissible in a class for "ornamental foliage plants." Its leaves when large, healthy, and glossy are ornamental no doubt, and so are the leaves of all plants when in perfect condition, whether they are large or small. We think the objection in question was well founded.

Pyrus floribunda (*C. W.*).—This is one of the most ornamental of hardy shrubs, inasmuch as the flowers are of a beautiful rich rosy red, and very freely produced in April or May, being followed by very small, long-stalked, nearly spherical fruit of a deep red colour on the sun side. We have no experience of the edibility or otherwise of the fruit, but we think there would be too much core, too many seeds, and too little flesh for it to be of any particular value for preserving similar to the Siberian Crab. *P. floribunda* is a native of Japan, and was introduced only a few years prior to 1881, when it was exhibited at the R.H.S. under the name of *Malus microcarpa floribunda*. There is a *Pyrus floribunda*, *Lindley*, which is a synonym of *P. arbutifolia*, the Chokeberry of North America.

Peach Trees Unsatisfactory (*J. H.*).—The trees may drop their fruit prematurely through imperfect stoning. This may be due to defective fertilisation, but the hole in the stem, or rather a hole in the base of the fruit next the stem, is mostly an indication of gum disease, which proceeds direct from the ovary and base of the kernel, the stoning being defective. Many fruits then fall instead of swelling just before stoning commences, and some after stoning in the early stages of the second swelling. The trees would be better lifted and replanted in fresh loam, but they are rather old to lift entirely; therefore, the soil may be removed down to the roots, be picked from amongst them carefully and fresh supplied, raising any deep roots and laying them in the new soil, taking particular care of the fibres, especially those near the stem. Good strong turfy loam of a calcareous nature is the best, taking it off an old pasture about 3 inches thick, adding to it about one-sixth of old mortar rubbish, freed of laths and other pieces of wood, if the soil is not naturally calcareous. It is better to employ manure as top-dressing than to mix any with the soil. The borders should be thus renovated before the leaves fall from the trees, but not until the wood is mature and the foliage commences to ripen.

Blight in Onions (*F. L.*).—The Onion tops or leaves are infested by the Onion mildew (*Peronospora Schleideniana*), which causes a whitish-grey bloom on all the young leaves, and fills all parts with its mycelium, causing them to become brown and black. There are also myriads of spores (both uredo and teleuto) of another fungus on some parts of the leaves, and this parasite (*Puccinia mixta*) has been observed as hurtful to Onion crops at Shrewsbury and other places in England, also near Aberdeen and other districts in Scotland. The chief mischief in your case is caused by the mildew first named, and, owing to the fact that the fungi live inside the affected parts, and only produce their reproductive parts (spores) on the outside, they are difficult to deal with. The mycelial threads are also found on the outside in some cases (yours is one), and then the parasite is easier assailed. As the disease has not spread to the bulbs we advise dusting the Onions thoroughly with fresh burned lime, slacked, and applied as soon as sufficiently cool on a calm day, preferably the early part, coating the plants well in every part. This we have found very effectual in arresting the spread of the disease caused by *Peronosporas*, including its closely allied species *Phytophthora infestans* or the Potato disease. When the crop is mature it would be advisable to burn the tops of the Onions, and have the ground deeply ploughed or dug, so as to put the germs of the fungi out of power for mischief, or at least a majority of them, for a considerable time. They live or retain their germinative power for several years, certainly not less than four. See Names of Plants.

Names of Fruits.—*Notice.*—Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. (*J. D., Wales*).—We have many times stated, and twice within the last month, that Peaches cannot be named without summer shoots, as the glands on the leaves have to be examined, information about the flowers, whether they are large or small, is also necessary. You have entirely overlooked these essentials. (*McK. B.*).—The red

Apple is Mr. Gladstone. We have taken some pains to determine the names of the others by comparison, and have arrived at the conclusion that they are local varieties without any generally recognised names. The numbers slipped off the stalks, and we can only say the smaller Apple was fairly good, the other worthless. (*D. E.*).—1, Citron des Carmes; 2, Williams' Bon Chrétien; 3, Jargonelle. (*Lex*).—1, Duchess of Oldenburg; 2, Red Astrachan; 3, Manks Codlin.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*J. R.*).—The light Carnation is a very good one, and worth keeping. Is it not paler than Mrs. Cannell? It resembles the light form of Mary Morris, but we do not undertake to name varieties of these and other florists' flowers. Thanks for the cuttings. (*F. L.*).—They are Potentillas, probably unnamed seedlings. (*T. S.*).—Specimen insufficient (no leaves), but possibly *Gypsophila paniculata*.

COVENT GARDEN MARKET.—AUGUST 24TH.

MARKET steady with prices firm.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, half sieve ..	1	3	to	3	Oranges, per 100 ..	4	0	to	9
Grapes, per lb. ..	0	9		2	Peaches, per dozen ..	2	0		6
Filberts, Kent, per lb. ..	0	10		1	Plums, per half sieve ..	3	6		7
Lemons, case ..	15	0		35	St. Michael Pines, each ..	3	0		6

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beans, Kidney, per lb. ..	0	2	to	0	Mustard and Cress, punnet	0	2	to	0
Bect, Red, dozen ..	1	0		0	Onions, bunch ..	0	3		0
Carrots, bunch ..	0	4		0	Parsley, dozen bunches ..	2	0		3
Cauliflowers, dozen ..	2	0		3	Parsnips, dozen ..	1	0		0
Celery, bundle ..	1	0		1	Potatoes, per cwt. ..	2	0		5
Coleworts, dozen bunches	2	0		4	Salsafy, bundle ..	1	0		1
Cucumbers, dozen ..	1	6		3	Scorzonera, bundle ..	1	6		0
Endive, dozen ..	1	3		1	Seakale, per basket ..	0	0		0
Herbs, bunch ..	0	3		0	Shallots, per lb. ..	0	3		0
Leeks, bunch ..	0	2		0	Spinach, bushel ..	3	0		3
Lettuce, dozen ..	0	9		1	Tomatoes, per lb. ..	0	2		0
Mushrooms, punnet ..	0	9		1	Turuips, bunch ..	0	3		0

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	2	0	to	4	Maidenhair Fern, doz. bchs.	4	0	to	6
Asters, French, bunch ..	0	6		1	Myosotis or Forget-me-not,				
„ English, doz. bunches	2	0		6	dozen bunches ..	2	0		3
Bonvardias, bunch ..	0	6		1	Mignonette, 12 bunches ..	1	0		3
Carnations, 12 blooms ..	0	6		2	Orchids, per dozen blooms	2	0		8
Carnations, Malmaison, 12					Pansies, dozen bunches ..	1	0		2
blooms ..	1	6		6	Pelargoniums, 12 bunches	4	0		6
Carnations, dozen bunches	4	0		6	„ scarlet, 12 bunches	3	0		4
Cornflower, dozen bunches	1	6		3	Pinks, dozen bunches ..	2	0		4
Eschscholtzia, doz. bunches	2	0		3	Poppies (var.), doz. bunch	1	0		4
Eucharis, dozen ..	2	0		4	Primula (double) 12 sprays	0	6		0
Fuchsias, per bunch ..	0	6		1	Pyrethrum doz. bunches ..	3	0		6
Gardenias, per dozen ..	2	0		4	Roses (indoor), dozen ..	0	9		2
Gladioli, various & spray	1	0		3	„ (outdoor), doz. bunch.	2	0		6
Gypsophilas, English,					„ Red, per doz. blooms ..	1	0		2
per bunch ..	0	3		0	„ Tea, white, dozen ..	1	0		3
Lavender, doz. bunches ..	4	0		6	„ Yellow, dozen ..	2	0		4
Lilium longiflorum 12					Stocks, dozen bunches ..	3	0		6
blooms ..	2	0		4	Sunflower, doz. bunches ..	2	0		6
Lilium (var.) dozen					Sweet Sultan, doz. bunches	2	0		3
blooms ..	0	6		2	Sweet Peas, dozen bunches	1	6		4
Marguerites, 12 bunches ..	2	0		4	Tuberose, 12 blooms ..	0	3		0

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (golden) dozen	6	0	to	12	Lobelia, per dozen ..	3	0	to	6
Begonia, per dozen ..	6	0		12	Lycopodiums, per dozen ..	3	0		4
Calceolarias, per dozen ..	3	0		6	Marguerite Daisy, dozen ..	6	0		12
Cupressus, large plants, each	2	0		5	Mignonette, per dozen ..	4	0		6
Dracaena terminalis, dozen	18	0		42	Myrtles, dozen ..	6	0		9
„ viridis, dozen ..	9	0		24	Palms, in var., each ..	1	0		15
Euonymus, var., dozen ..	6	0		18	„ (specimens) ..	21	0		63
Evergreens, in var., dozen	6	0		24	Pelargoniums, scarlet, doz.	2	6		4
Ferns, in variety, dozen ..	4	0		18	„ per dozen ..	6	0		12
„ (small) per hundred	8	0		12	Rhodanthes, per dozen ..	4	0		6
Ficus elastica, each ..	1	6		5	Trailing plants (various),				
Foliage plants, var., each..	2	0		10	per dozen ..	3	0		9
Fuchsia, per dozen ..	3	0		8	Tropeolum or Nasturtium				
Geraniums, Ivy ..	4	0		6	per dozen ..	4	0		6
Hydrangea, per dozen ..	9	0		15					



HOME FARM

A BUTTER FACTORY.

In these articles we have often placed much stress upon the importance of close attention to the details of cow management,

as well as of milk manipulation in the dairy, but we must admit that the final result, the crown and finish of the work, rests entirely with the dairy manager. That is the reason why factory butter is so superior to the ordinary samples from farmhouse dairies. The art of churning consists in the thorough separation of the butter grains from the butter milk. At the factory this is done to perfection; at the farmhouse it is a very doubtful matter indeed. Careless, hasty churning breaks up the butter globules, mixes the casein with them, colour and flavour are then both spoiled, and the butter soon becomes rancid from the decomposition of the casein. Evidence of this careless practice is afforded by the white streaks so frequently present in butter, which when quite fresh is fairly palatable, but never has the delicate nutty flavour of really pure butter, and is soon unfit for use.

There can be no doubt that dairy schools and dairy lectures do much good, both by showing how good butter is made, and in explaining why failures occur. Worthy farmers' wives, ignorant as most of them are of the science of butter-making, must often wonder why the butter is streaky again. Have they not taken care to stir the cream, to scald the churn, and to place the cream in it with their own hands? Yes, but then came the hasty summons of the odd man or lad to the churning, at which he is thoughtlessly urged to "make haste." He does so, dashing the cream about rather than steadily agitating it, and there is more streaky butter, with the resultant vexation and certain loss if the butter is not used at once. Lecturers explain clearly how this occurs, and how it may be avoided; they also show the importance of temperature, of uniform condition of the cream, of thorough washing and working of the butter, and how long really pure butter is free from rancidity.

It is just because every detail has attention that factory butter is so superior and is so much in demand that there is never enough of it. Let us see once more what are the other special advantages of a factory. The building consists of three divisions, connected, yet shut off from each other—the engine room, the dairy with an upper storey, the weighing and milk delivery department, out of which doors open into the storeroom and dairy. The new milk is received and the separated milk despatched without the persons engaged in that work having to enter the dairy at all. Each churn of milk as it is brought is placed upon the machine, which weighs it and prints the weight upon a slip of paper. It then elevates the vessel and empties it into a cistern in the upper floor, whence the milk passes through a pipe to the dairy into a separator driven by steam. The cream runs into receivers, the separated milk being driven upwards to a refrigerator, flowing thence, cooled, into another cistern, whence it is drawn into the weighing room and taken away. The churn, usually a large barrel one, and butter worker, are also driven by the engine. As the butter is made up into pounds, it is placed upon small slates, each holding 15 lbs., and taken to the storeroom, where iron racks are fixed around the sides to receive the slates. Access to the engine room may be had by a covered way, but it should always be by an outer door, to avoid all risk of dust or steam in the dairy. The cleansing of the dairy utensils is done over a steam pipe, so that the scalding is perfect. All drains are upon the surface, with clear and wide outlets taken right away from the building so as to render any accumulation of sewage impossible.

In the new co-operative factories in the South of Ireland the test for quality is applied by periodical churnings of whole milk from the cows of each member. Here we have the creamometer testing quality by degrees, and the Victoria tester, which, by an arrangement of multiplying wheels, causes a holder containing small bottles of milk laid horizontally like the spokes of a wheel on its side, with corks inwards, to revolve with such rapidity—centrifugal force again—that the cream flows to the inner end or tops of the bottles "while you wait," and the quality of the milk is visible at a glance. This requires only two or three

minutes, and is the most satisfactory and interesting test we have tried.

The entire building externally and internally should exemplify economy of materials, space, and cleanliness with efficiency. We commend it to the attention of technical education committees, for we should much like each county to possess a model dairy factory, either for butter or for both cheese and butter, as well as a model dairy farm, fruit farm, and allotment. Why not? County councils have ample means at their disposal. If they hope to impart exact knowledge, to lead the people on to better things, they must show the way by the actual example of something more tangible than a lecture affords.

WORK ON THE HOME FARM.

In addition to the sowing of *Trifolium incarnatum*, advised last week, Italian Rye Grass may also be sown on a clean stubble, nothing more being required than a turn or two of harrows and light rollers. Do not forget, however, that this Grass is a particularly gross feeder, which, if sown in poor or exhausted land, will give a full plant, but it will be stunted and yellow. The fact of sowing upon a stubble should tell one that the crop just cleared has taken much plant food out of the soil, and if we would have early strong growth in spring 2 or 3 cwt. of basic slag or mineral superphosphate per acre should be harrowed-in with the seed; then, with some nitrogenous manure applied in February, a really useful supply of rich fodder can be had. Like Oats, Italian Rye Grass quickly shows one the condition of the soil. We have had self-sown seed of it come up so thickly with corn that the stubble had the appearance of a meadow, but the grass plant had a very yellow poverty stricken appearance till a top-dressing of manure was washed down to the roots. No crop answers better to the touch of manure nor so bountifully repays one for liberal treatment.

Fine harvest weather, much as we value it, proves trying for pasture. Keep is already becoming scarce, and a prolonged drought will make bare pasture this autumn. The crop of Green Maize sown early in June will now soon be in use. We find it so great a boon that we wonder it is not more generally grown. A field of it is still a rare sight, so little are farmers given to change, and so slow are they to take up a new thing. Yet here we have a crop of most easy culture, yielding from 20 to 30 tons of wholesome green succulent food per acre, which is so palatable that cattle fight in their eagerness for it. All that it requires is a rich soil, watchfulness against rooks till the plant is visible, and using before there is much risk of harm from frost. It is positively refreshing to watch cattle crunching the large succulent stems of it out on a parched pasture. It answers perfectly well in ordinary soil rich in fertility, but on a sewage farm it grows from 8 to 10 feet in height. The point of most importance is its suitability for all farms free from frost for about four months as a minimum. We call attention to it particularly now in order that those home farmers who may feel the pinch of drought may be induced to sow some Maize another season.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

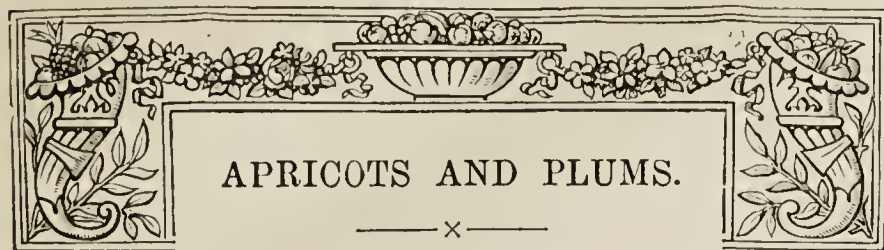
Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.				Rain.
1892. August.	Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.
Sunday .. 14	29.867	67.8	59.7	S.E.	60.8	75.1	56.7	122.6	52.0	—
Monday .. 15	29.935	65.0	56.9	W.	61.1	76.6	55.1	126.7	50.6	—
Tuesday .. 16	30.112	64.2	58.6	S.	61.7	69.8	51.4	101.0	44.2	0.018
Wednesday 17	29.934	69.0	63.2	W.	60.9	82.1	55.6	125.6	52.0	0.048
Thursday .. 18	29.821	64.0	63.1	E.	62.0	72.3	59.1	79.9	57.3	0.440
Friday .. 19	29.721	63.4	62.6	S.W.	61.9	66.8	58.3	95.1	55.7	0.099
Saturday .. 20	30.033	61.3	55.6	S.W.	61.0	74.3	52.2	116.7	49.0	—
	29.918	65.0	60.0		61.3	73.9	55.6	109.7	51.5	0.605

REMARKS.

- 14th.—Sunny and warm day, cloudy evening, gale at night.
 15th.—Bright breezy day, slight showers between 5.30 and 6 P.M.
 16th.—Bright early, haze, or almost slight fog, between 8 and 10 A.M., then drizzly till 1 P.M., and bright sun again after 3 P.M.
 17th.—Almost cloudless morning, and sunny and warm throughout.
 18th.—Overcast and very damp, foggy at times, and frequent slight showers; thunder-storm with vivid but rather distant lightning in evening.
 19th.—Overcast and extremely humid, with occasional spots of rain, and a very heavy shower between noon and 1 P.M.
 20th.—Bright and sunny.

A warm, but on the whole unpleasant week, the 16th, 18th, and 19th being three of the most objectionable days remembered in August.—G. J. SYMONS.



AS briefly announced in our last issue, a Conference on Apricots and Plums was held on Wednesday, August 24th, in the gardens of the Royal Horticultural Society at Chiswick, in connection with the Exhibition reported in the same number. There was a fair attendance. In the absence of Mr. R. D. Blackmore, who was to have opened the proceedings, Dr. Hogg presided, and introduced the readers of the papers.

Mons. F. Jamin's paper on Apricots was first given. The essay, written in French, and translated by the Rev. W. Wilks, was of an extremely interesting character. The essayist dealt with the subject in a masterly manner, and detailed the method of Apricot culture adopted in France. In that country, he said, Apricots ripen more or less irregularly, but when well grown few open air products are more choice. The trees do best on a warm calcareous soil, and when sheltered from the north-east winds. If only sheltered by other fruit trees the Apricots derive considerable benefit. They succeed in and around towns, but according to his experience shelter is indispensable. Apricots, he said, are cultivated extensively in many parts of France. The market growers, in many instances, gather the fruit before it is ripe, and notwithstanding want of quality, it finds ready purchasers, and fair prices are realised. Considerable quantities of Apricots, said Mons. Jamin, are converted into jam, in the manufacture of which, however, Pumpkin flesh largely enters. Regarding the best localities for Apricot culture in France, it was stated that in the valley of the Rhone they did remarkably well. For twenty miles or so west of Paris, on the banks of the Seine, there is a remarkable tract of land devoted principally to the culture of this fruit.

The soil is light and calcareous, admirably adapted for the purpose. Everyone there grows Apricots. The trees, as a rule, are planted from 12 to 15 feet apart, and are globular or vase-like in shape. The growers attach the greatest importance to their system of pruning, usually cutting the shoots back to three or four eyes. Generally the trees commence bearing three years after planting, but are most prolific when from ten to fifteen years old. Many of the trees in that neighbourhood, however, are very old but still continue to bear large crops annually. The average yield per tree each year is calculated at about 60 lbs. when in full bearing, and it is estimated that the annual sale of Apricots from those districts realised a sum of no less than £2000 sterling. The growers who sorted and packed their fruit carefully, of course, secured the best prices, a remark, by the way, that fruit cultivators generally might take to heart. All the Apricot trees in the districts mentioned are grafted on the St. Julien Plum stock. Mons. Jamin's paper also included some remarks regarding the classification of Apricots, observing that many varieties could be distinguished by their leaves and stones, some of the latter being perforated.

A brief but instructive discussion regarding Apricots followed the reading of the paper. A gentleman present asked why the branches of Apricot trees died without any apparent cause. Replying, Dr. Hogg observed that the gaps alluded to are mainly caused by frost, generally the previous winter. The sap vessels are destroyed or lacerated, and in the spring these vessels fail to supply the necessary nutriment, hence the withering of the branches when the sun gains power. Something might be due also to soil, such as deficiency of lime, which always results in a failure with stone

fruit. Mr. W. Paul concurred, and reminded those present that Apricot trees are much more tender than is generally supposed. The branches of some varieties, too, he said, are more liable to die suddenly than others. He had had experience of this. Some years ago he had a number of Moorpark Apricots growing on a wall, and some of the branches died in the manner described. The trees were moved, the soil carefully renovated, and other varieties, including Blenheim, planted with them. Still, the branches of Moorpark continued to die off, but Blenheim never lost a shoot, and this variety is now and has always been in a healthy condition. He therefore suggested the culture of this variety, inasmuch as it is not subject to the disadvantage complained of. Mr. Paul also sensibly observed that everything which tends to keep the trees in good health should be done, never allowing insects, not even an aphid, to gain a footing. Judicious pruning and watering were important factors, too, that the cultivator should not overlook.

The Rev. W. Wilks asked why Apricots are so difficult to grow under glass. For some years, he said, he had tried to grow them thus, but had failed. The trees were healthy, made plenty of growth and foliage, and flowered freely, had plenty of air, but yet failed to fruit. Out of seven fine trees in pots he had but one fruit this year. Had the stigma of the blooms anything to do with it? He observed that the stigma of Apricot blooms turned round instead of pointing outwards as in the Peach and Nectarine, and were thus protected from the bees.

Mr. Bunyard thought the failure to grow Apricots on walls satisfactorily in this country was owing to the borders in many cases being too closely cropped with vegetables. In October heavy rains generally set in, and these have a tendency to start the Apricot roots that are growing in the rich soil provided for the vegetables, into life, when they required rest. If the borders could be covered with shutters after that time he thought Apricots would be grown much better. The situation, he said, cannot be too hot or too dry for Apricots. As to the branches dying, an old cultivator he knew used to cut away the black diseased wood and paint the wounds with knotting with great success. With regard to the Rev. W. Wilks' question Mr. Bunyard detailed the method of treating Apricots under glass in a private garden of his acquaintance. The trees there, he observed, are kept dry all through the winter, and after starting into growth, deluged with water once a fortnight until the fruit is gathered. The reason why many fail to grow Apricots under glass is owing to there not being sufficient nutriment in the soil in the pots to support the quantity of growth generally made. He should recommend planting the trees out under glass in preference to growing them in pots. The Shipley and other old-fashioned sorts, in his opinion, are much hardier than the choicer kinds and best for general cultivation.

Dr. Hogg at this point explained that the perforated stone, mentioned by Mons. Jamin in his remarks on classification, and by which some varieties could be identified, meant that the channel which is usually present in Apricot stones was covered instead of being open. Mr. W. Roupell then detailed his experience as regards Apricot culture, advocating firm soil for the trees, and Mr. T. Francis Rivers advised keeping trees under glass dry in winter. Surface dressings also do good, he remarked, and plenty of ventilation is most essential. The stoning period is a critical time, and if the house is shut up closely at that period the fruit is liable to drop.

Mr. Rivers next read a paper on "Dessert Plums." He opened his subject by remarking that dessert Plums were likely to become an article of great value in the Colonies and other foreign countries, where the drying of fruit was adopted. As regards varieties, he said none can challenge the Green Gage, of which there are many varieties. Among others, the Early Transparent, called the Early Apricot in the "Fruit Manual," is a useful variety, whilst the same can be said of Late Transparent, a variety that will be largely

grown in the future. Although the Gages are at the head of the list, Mr. Rivers said there are other good dessert varieties, and mentioned Kirke's and Jeffersons as being excellent September Plums. Coe's Golden Drop he also referred to as being a first-rate October Plum, and among recently introduced varieties The Czar and Grand Duke are very fine, the last-named being especially good under glass. Referring to this portion of the subject Mr. Rivers said that no fruit is more easily grown in pots under glass, all that was necessary being judicious treatment and abundance of air. Some interesting remarks as to the classification were then given, but Mr. Rivers did not think it necessary to go into cultural details.

Mr. Bunyard, in the brief discussion which followed, said he should not advise anyone to unduly reduce the number of varieties of fruit without carefully considering the matter, inasmuch as some kinds in certain positions and seasons were much less prolific than others. Apart from Green Gages, he thought Kirke's one of the most delicious Plums that could be grown on a wall. A gentleman mentioned that Belgian Purple was an excellent dessert Plum, and worthy of extensive culture.

Mr. J. Smith's paper on "Cooking and Market Plums" followed, and was read by Mr. A. Dean. To succeed in growing Plums for market, the essayist said, only the best early and late varieties should be cultivated, and these must be properly packed. The Plums must be of superior quality and uniform in size to realise remunerative prices. In this country there is, he observed, the best market in the world for fruit, and in due course, no doubt, the railway companies will adopt cheaper rates to facilitate the fruit-growing movement. One important factor in growing Plums for market is the selection of the site. The situation should be open, and the soil of a stiff loamy character or even clayey if fertile. On grass land standards with 6-foot stems are best, and these should be planted 20 feet apart. Damsons are the most profitable crops on grass. In planting the soil can hardly be made too firm, neglect of this being a frequent cause of failure. When the soil is firm and rich the growth also will be firm, short-jointed, and well ripened. Victoria is a good market variety and an excellent cropper; but Early Prolific, said Mr. Smith, is one of the heaviest and best Plums to grow. These two varieties should be always grown. The Czar, Pond's Seedling, Diamond, and Sultan were also excellent kinds for the purpose named. Where deficient naturally, lime might with advantage be applied to the soil, and yearly dressings of manure should be given. The trees must never be allowed to become a thicket, but all small useless branches cut out. When grown on cultivated land Gooseberries and Currants could be planted between the Plum trees, and so help to swell the returns.

As to gathering and packing the fruit Mr. Smith advised growers to place the first-rate samples by themselves, and those of second-rate quality similarly. The results then are, as a rule, much more satisfactory to both vendor and purchaser. Prices, he said, varied considerably. For seventeen years he had grown Plums for market, and had disposed of as many as sixty tons in one season. In some years he had only obtained 1s. 3d. per bushel for Plums of first-rate quality, whereas in other seasons the same kind of fruit realised 18s. per bushel, and even as much as 25s. in the autumn.

Mr. Bunyard cautioned growers against planting Early Orleans, inasmuch as many trees of that variety were killed in Kent last winter by frost. Belle de Septembre, he said, was not to be depended upon as a regular cropper, but Belgian Purple and Bleeker's Scarlet were always good. Half-standards are better than standards in his opinion, they being less liable to be damaged by the wind.

A gentleman detailed his experience of Plum culture for market in Cambridgeshire, remarking that Rivers' Early, The Czar, and Victoria are the best varieties that could be grown for the purpose in that district.

A vote of thanks to the Chairman and lecturers brought the proceedings to a close.

FUNCTIONS OF VINE LEAVES.

MR. W. IGGULDEN has brought to the notice of readers of the *Journal* a subject of vast importance and equal interest, which should be the means of eliciting much useful information if others will join in the discussion in the admirable spirit in which it has been started. I have long been in the habit of considering your correspondent's articles thoroughly as a whole before giving a decided opinion on any particular portion of them. Having applied this method in the present instance, I have come to the conclusion that the ideas he advances concerning the functions of Vine leaves and the management of Vine shoots are not so much opposed to those which generally prevail as might at first be supposed, nevertheless there is ample opportunity to lay bare the weak points of his contentions by recording facts which point to opposite conclusions.

The theory advanced by Mr. Iggulden, "that the bunches after being developed by the aid of stored up sap and moisture ascending from the roots are largely, if not solely, sustained subsequently by the crude sap ascending from the roots, and not by that elaborated by the leaves," is not only entirely at variance with the teachings of plant physiologists, but is also opposed to many well-known facts connected with Vine culture. How is it that Grapes cannot be perfectly coloured if the leaves on the laterals carrying the bunch—especially those at the extremity—are not in a healthy state? Take a shoot, for instance, on which the leaves behind the bunch are badly infested with red spider, while those near the base are quite fresh and healthy; if the bunch is principally sustained by the crude sap ascending from the roots the colouring process should not be materially affected provided the principal portion of the leaves on the Vine are healthy, yet, as far as my experience goes, the opposite is the case.

This view is also strongly supported by numerous experiments carried on with Vine shoots, which can be easily tested by anyone. Let the experimenter select a healthy Vine shoot carrying a good bunch, with two or three primary leaves beyond. If the bark of this shoot is ringed between the bunch and the first leaf beyond, as soon as the bark is formed the berries will continue to swell without any apparent check, but the colouring process will be only imperfectly performed. Although I agree with Mr. Iggulden that good bunches and fine berries may be produced by stopping at the joint from which the bud springs, yet if no lateral is afterwards taken from that joint there is not the slightest chance of colouring the bunch properly, although there may be abundance of healthy foliage on other parts of the Vine. This, I think, clearly shows what plant physiologists have long maintained—namely, that it is principally by the aid of elaborated sap produced by healthy Vine leaves, and supplied to the bunches in its downward course, that the chemical process by which Grapes are brought to perfect maturity takes place.

Taking all these facts into consideration, the practice of invariably stopping Vine shoots at the second joint beyond the bunch, and afterwards keeping all sub-laterals pinched back closely, is, I think, not the best course to pursue. That a vast quantity of good Grapes are annually produced by working on these lines I do not dispute, for it is a striking fact that some men in any walk of life accomplish much by energy and industry, even when working on a system which is not a good one. Does it seem feasible that a creeper of such a rambling nature as the Vine should bear such close cropping year after year with impunity? Go where I will I am continually meeting with instances in which old Vines have been rejuvenated by laying in young rods or by allowing plenty of lateral growth, and I also frequently see others which should be in their prime far from satisfactory through close stopping and overcropping. Even with the same weight of crop I would guarantee to greatly improve such Vines solely by encouraging plenty of lateral growth, for Vines will carry and finish perfectly a much heavier crop than many people suppose. I am perfectly convinced that those who crop lightly and stop closely are compelled to resort to the former practice because they continue the latter one.

I well remember paying a visit to the vineries of an eminent Grape grower, with whose writings the numerous readers of the *Journal* were a few years ago well acquainted, and whose grand examples of Grapes have, during recent years, been staged at many great shows, where they thoroughly merited the awards received, and have won universal admiration among high-class fruit growers. When paying the visit in question I especially noticed the large amount of lateral growth going on while the Grapes were colouring. The main laterals were trained thinly, and beyond each large bunch the sub-lateral was allowed to develop continuously. These were in some cases hanging down for a foot or two below the trellis, yet there was not the slightest overcrowding. No one seeing the Grapes could have any doubt about the treatment being correct; such an

uniform number of immense shapely bunches I have never seen before nor since, and the weight of fruit per square foot of glass roof is not often seen on Vines of the same age combined with good colour.

It must be admitted that a crop consisting solely of large bunches, although demonstrating the height of cultural ability, is not so useful for providing a continuous supply as a large number of smaller bunches, but a few large bunches are always prized by all classes of cultivators. The distance at which Vine rods should be trained apart ought, therefore, in my opinion, to be determined by the purpose for which the Grapes are required, and for general purposes 4 feet apart, as Mr. Iggulden advises, is doubtless about the right distance for many varieties. Give Muscat, Gros Guillaume, and Trebbiano in all cases another foot of space.

In dealing more particularly with sub-laterals, I cannot altogether agree with Mr. Iggulden that they should be chiefly valued as affording a safe outlet for superfluous energy, for I maintain that to keep Vines healthy and vigorous year after year the roots must be kept in an active state, and I opine that the best way to do that is to have a little growth continually going on till the Grapes are ripe, rather than by persistently pinching it back after the primary leaves are formed. I have always adopted the practice of allowing a continual extension of Vine shoots carrying exceptionally large bunches, and am confident that such a practice does much towards helping them to finish the berries properly. This, I contend, is caused by the vigorous circulation and elaboration of sap thus kept up on those portions of the Vine where the greatest strain is felt. I maintain, therefore, that the best course to pursue is to stop back closely all sub-laterals on shoots not carrying a bunch, and to allow the strongest sub-lateral beyond every large bunch to grow unchecked for a time, merely taking out the point when it shows signs of becoming very strong. There ought to be no difficulty in disposing these growths between other leaves and shoots without producing overcrowding.

This is a far different matter from allowing growths to develop on the back wall of a vinery, where but little light and scarcely any sun reach them. They are, moreover, wrongly placed, as it is on the extremity of shoots carrying bunches that extra growth is so beneficial.—H. DUNKIN.

SWEET PEAS.

I HAVE read with much interest the notes on the culture of these most charming annuals appearing in your last issue, and hope to follow in the coming season some of the good advice therein given with advantage, though I cannot but think that the quantity of soot recommended is somewhat excessive and enough to smother the plants.

As I have made these attractive flowers a special study for the last two years, I can most strongly recommend to all growers of them the use, for their support, of the light and comparatively inexpensive wire hurdles, 6 feet long and 5 feet high, supplied to me by Messrs. Hawkins & Co. of Birmingham, who, at my suggestion added legs to each end to drive into the ground and keep them in an upright position, which had previously to be effected by lashing a stout bamboo cane to each end of the hurdle. These supports do not seem to be known to your correspondent, as he still seems to use the clumsy and untidy Pea sticks to support them.

I quite agree with Mr. Brotherston as to the great beauty of Mrs. Eckford and Her Majesty, both sent out for the first time this year, but am not inclined to give so high a position as he does to Countess of Radnor, as though undoubtedly a delicately pretty and uncommon shade of colour, it is unfortunately of a weak and delicate habit of growth, and but seldom makes a perfect or fully developed flower, the back petals usually lying down on the front ones instead of standing upright as they should do, which gives the flowers a withered and unsightly appearance from the first. It is also an extremely shy seeder, hardly any of the seed it does give filling thoroughly as other sorts do, and being consequently of most uncertain germination. In Dorothy Tennant, a very beautiful variety, sent out, I think, for the first time this year, a most admirable substitute for the last named variety might, I think, be found; it has, moreover, two entirely distinct and different shades of colour, one on opening, changing to the other and deeper shade after being open for a day or two.

Another very fine Pea is H. M. Stanley, which is, I believe, to be sent out next spring or this autumn for the first time. This is, in my opinion, by far the finest dark variety that has yet been seen, and has been at once noticed and remarked as such by all friends who have seen it in my garden during the summer. This fine variety should, I think, quite throw into the shade such older and once highly esteemed sorts as Boreatton, Monarch, and others.

Another most beautiful Pea sent me this year by Mr. Eckford is named Gaiety, and is white, clearly streaked with rose colour. I saw an almost, if not exactly, similar flower at the Drill Hall meeting of the Royal Horticultural Society, on August 9th, in a group sent in from the gardens of the Society at Chiswick, having been sent there for trial and comparison with others, and bearing the name of The Queen. It was sent by Messrs. Barr.

A careful examination of this large group of blooms quite convinced me that there are far too many varieties bearing separate names, which only leads to confusion, as many of them are so slightly different from others as only to be distinguishable by the most practised eye. Another fine and most distinct variety, though by no means new, and not mentioned by Mr. Brotherston, is Orange Prince, also raised by Mr. Eckford, which I think should be in every choice collection.—W. E. GUMBLETON, *Belgrove, Queenstown, Ireland.*

THE RESTING OF PLANTS.

THIS is a very important point in the study of gardening. It too often occurs that when plants—especially bulbous kinds—have finished flowering they are removed into out of way places until sought for again. I am alluding now to Amaryllis, Begonias, Gloxinias, and such like plants. It is certain that during the time of flowering there must have been a great strain upon them, so it becomes clear that to be successful year after year with the same bulbs we must pay great attention to their requirements immediately after flowering, so as to encourage them to store up sufficient strength previous to going to rest that they may, when started again in the spring, give full satisfaction. A careful study is requisite in bringing about a gradual state of rest, to which most plants are subjected by withholding water at the proper season.

The mention of Amaryllises, as requiring especial care as to watering after flowering, should not be passed without comment. We all are aware of the wonderful progress that has been made in the development of this gorgeous family of plants of late years, and their growing popularity. This makes us anxious to know something more of their requirements. The plants have their season of growth after the flowers fade. The rapid production of leaf and flower from the bulbs seems to exhaust them so much that they shrink considerably by the end of March or beginning of April, and in consequence a season of growth should be encouraged from them until about the end of August, when the bulbs will be found to have plumped again. During that period the process of development is very rapid, and any check to the growth would not be easily recovered from.

In September we gradually withhold water. In October, November, and December the plants are kept without any. In January the bulbs are plunged in gentle bottom heat, but we give no water for at least three weeks, provided the soil is moderately moist at the time of potting. I have found that an excessive atmospheric moisture in the house will engender decay of the bulb above ground, and the same process goes on at the base of the bulbs if too much water is applied to the soil.

To bring about a gradual rest in plants it becomes necessary to lower the temperature they have been growing in at the time the water is being withheld from them, but sometimes we are not fully aware as to how far we may go in the matter of low temperature until we have lost some of our plants by being kept too cold whilst at rest. Take for instance Orchids, the East Indian section. To bring these to a state of rest we endeavour to maintain for them a temperature of 60° by night and 65° by day generally, from November till about the middle of February, a little air being given on every fine day to dry the atmosphere. The cultivator must study and apply the needful rest to others of this class, lowering the temperature in proportion as the case may be, considering the climate and conditions under which these are found growing, always being careful in applying water to the plants in the lower temperatures.

I believe there are more Orchids lost by overwatering than from any other cause; although not showing it at the time, it will surely tell upon them afterwards. In their own native habitats we are told they receive a great deal of rain during the growing season, but we must not forget how very different are our houses to their home. With us they are closely confined, and evaporation does not take place to such an extent as where they are growing in nature on rocks and trees, in positions where the wind quickly dries up the superabundant moisture. Thus we must study the importance of rest to this and other classes of plants, and imitate as near as we can the natural rest to which they are subjected.

In the case of greenhouse plants I think the resting period may

or does extend from November to February, during which time we should maintain the temperature as near as we can from 45° to 50°, with as little fluctuation as possible. No doubt gardeners have noticed how Azaleas are excited into growth in the winter months, and in many cases the buds are so weakened that they go blind. I believe this is caused by keeping the plants in a too high temperature, probably by excessive fire heat. This has such a tendency to dry the plants that frequent watering is necessary, causing the growth to start, much to the annoyance of the cultivator. The same thing occurs with Camellias and many other plants. It thus becomes very necessary to watch closely the variation of temperature outdoors in connection with resting plants, as at times it may be 50°, or even higher, and we must then guard against any excessive amount of moisture about our plants. High night temperatures should, as far as possible, be avoided.

It should be remembered that in whatever position a plant is placed it should stand perfectly level, and on some material where the water may drain away freely. If the plant is not level the danger is that the soil on one side of the pot is dry and the other side wet, which is the worst possible condition for a plant to be in.

The action of rain water, whether artificially or naturally applied, has been proved to be by far the most beneficial to plants, as by its aid the solubility of food becomes more rapid. Guard against the application of cold or hard water to the roots of plants, and especially in the winter months, when there has been a heavy fall of snow, hail, or cold rains. The water in the tanks then becomes very much too cold. This may not be noticed in the ordinary course of things, and the plants are sure to suffer a check at the roots that, in the case of Camellias, for instance, would be quite sufficient to cause bud-dropping. I am always very careful that the water in our tanks is a few degrees warmer than the house in which the plants are growing. This is very important in successful plant culture. We are apt to say sometimes on beholding a sickly plant—one mildewed or with rust on the foliage—that it must have been subjected to a draught or current of cold air, whereas the probable cause was the use of cold water, which paralysed the roots. Proof of this may easily be seen by giving one or two applications of cold water to winter Cucumbers or Kidney Beans when setting their pods.

The syringe is useful when rightly used. It is not uncommon to find a plant full of roots lacking the necessary amount of water needful for its support, as by the appearance of the surface of the soil it may seem to have even more than is required. The cultivator must not err on this point, and hence the syringe, good old friend as it is, must not be trusted too far. One other important thing occurs to me. Water tanks should be occasionally cleaned out, as there is often a great accumulation of soot and dirt in them, which is syringed upon the plants and disfigures them, as will hard water or water charged with lime.

Another important fact should be borne in mind, and especially should young gardeners note this, as sometimes they may be called upon to undertake the management of perhaps a large garden; I mean the adequate provision of a supply of soft water. In our own neighbourhood we have not much to fear as to a water famine, but in some districts it becomes a consideration of the highest importance. No one knows the difficulties experienced through a scarcity of water in a garden but those who have to endure it, nor the anxiety of gardeners when they see their crops dwindling away. An excess of rain cannot be prevented, but a water famine, in most cases, if not in all, may be averted by a well devised system of storage when the rain is in excess of immediate requirements. In conclusion, I would say to all young men, Learn to observe, take notice of all your plants from day to day, keep in mind the treatment you have subjected them to, notice the slightest change in their appearance, and discover the cause of it. You will then have made a start in the right direction, for depend upon it the man who errs and finds out the true cause of his failure has learned something; but, on the other hand, he who ascribes his failures to the wrong cause has not. Observe the appearance of plants in perfect health and endeavour to keep them so. It is better to learn by close observation than to follow instructions laid down by those of us who are working perhaps under very different circumstances, as you can then work in accordance with your own surroundings.—B. CROMWELL.—(Read at the Liverpool Horticultural Association.)

HARDY FLOWER NOTES.

WE are having a late season, and, although we have had better weather for the last few days, storms of wind and rain have sadly marred the beauty of the flowers. Some of the late opening flowers seem as if they had lingered too long before appearing

upon the scene, and everything betokens a short period of beauty. The Tiger Lilies have only opened their flowers within the last day or two, Hyacinthus (Galtonia) candicans still dallies, and refuses to open its chastely beautiful bells, and other late bloomers open but slowly. The Composites are, however, in force.

Looking at the Sunflowers with their golden blooms, one is at a loss to decide whether they lighten the dull days or, by the contrast of their brilliancy, make the rain and the gloom more perceptible to our eyes. Some of them seem hardly at home in our northern latitude, and look as if they longed for sunnier realms, where the luminary whose name they have appropriated shines for a longer time and with brighter radiance. The day of the annual Sunflowers seems to have departed, for a time at least, and, admirer of perennial flowers as I am, I cannot but miss these great, golden heads on gigantic stems which decorated so many gardens. They were overdone, no doubt, but in some positions they were unequalled, and among the numerous perennial species, their allies, and their varieties we have none to compare in massive grandeur with the annual varieties. Yet there are some fine plants among the perennials, plants which hardly merit the contemptuous way in which the late Robert Browning spoke when he said:—

"I know a mount, the gracious sun perceives

* * * *

And underneath the mount, a flower I know,
He cannot have perceived, that changes ever
At his approach, and, in the lost endeavour
To live his life, has parted, one by one,
With all a flower's true graces, for the grace
Of being but a foolish mimic sun,
With ray-like florets round a disc-like face."

And this flower, he says, "men call the Sunflower sportively." We are not, however, content with the "ray-like florets round a disc-like face," but have sought to discover or to raise double forms, and the search has not been in vain. *Helianthus multiflorus* plenus has been succeeded by the fine *Soleil d'Or* with its quilled florets, a decided acquisition in the garden, and apparently quite hardy in this locality. Beautiful also is the newer *Bouquet d'Or*, which, however, seems to be of a more delicate nature, as it did not survive last winter in my neighbourhood. This is unfortunate, as its fine colour and form make it very acceptable. Then, although not coming within the category of double flowers, we have the fine *Helianthus giganteus*, a name which I feel justified in taking exception to as impressing us with an idea of ungainliness and want of grace, whereas there is nothing of the kind in this graceful flower with long wand-like stems and somewhat small flowers. Would that we could give it a sheltered spot where it might display its graceful habit unfettered by stake and tie. It is only thus that some of these fine flowers can have justice done to their beauties. But, alas! such wind-swept gardens as mine necessitate that tall flowers should be condemned to a confinement and bondage unnatural and undesirable.

If these golden flowers are thus adorners of the garden, there are others beautiful alike in the garden and as cut flowers. Among the latter white flowers are always welcome, and specially useful from the quantity of bloom, from the neatness of the flowers, and from their easy growth are some of the *Achilleas*. Perhaps one of the best of these is the well-known *A. Ptarmica* fl. pl., the double-flowered Sneezewort, which is said to be known in Gloucestershire and other parts as "Seven-years' Love," and to be carried by bridesmaids under this name. The march of improvement or the desire for novelty has, however, introduced to our notice a rival flower known under the name of *A. grandiflora* The Pearl, an appropriate enough name, justified by the character of the flower. The flowers are larger than those of *A. Ptarmica* fl. pl., looser and lighter in the formation of the flower, and have a pleasing colour, differing considerably from that of the older plant. This shade, if the term is permissible, is well described by the name The Pearl, as the flowers are of a pretty pearly tint. Growing in the garden the difference of the flowers is not so noticeable, but when cut and placed together it is readily seen. I saw the two shown in competing stands at a flower show lately. The stands were side by side, and the most careless observer could hardly fail to observe that The Pearl was an improvement upon *A. Ptarmica*.

The value of these *Achilleas* for cutting leads me to refer again to the *Eryngiums* or Sea Hollies as being very useful for cutting to dry for winter decoration, a use which many people do not seem to be aware of. They should be cut before their best bloom is over, and hung heads downward in a dry warm place until they are thoroughly dry. I made a remark some time ago on the confusion in the nomenclature of these plants, and a fresh instance of this was brought under my notice at the Show before mentioned. I was informed that three plants received under the name of

E. amethystinum from three different nurserymen have all proved to be distinct plants.

Equally useful for cutting for winter decoration are some of the *Statice*s, which are in most instances remarkably graceful. The well known *S. latifolia* is one of the best of the hardy sorts, but we all like variety, and a very pretty little species which has flowered with me this year for the first time has proved so useful for the rockery that it deserves a note to itself. This little Sea Lavender I received under the name of *S. Dodarti*, and I have no reason to doubt the correctness of the name, although no description of the plant is to be found in any of our standard works. I am not, however, absolutely certain as to the spelling of the name, as I have seen it given as *Dodardti*. However this may be, it is very neat and pretty with its deep green Daisy-like small leaves and erect heads of lavender blue flowers with white calyces. It is thriving well in sandy soil on a rockery with an eastern exposure, but judging from its appearance it would be very suitable for the front row of the border. It is exactly 9 inches in height with me. I have no information as to its native habitat or date of introduction, and should be glad to have any information on these points. There is a yellow flowered *Statice* in cultivation under the name of *S. Fortunei* which would appear to be well worth growing. I had at one time a young plant of this, but it disappeared in a mysterious way, and I was thus deprived of the pleasure of seeing it in flower. It requires a light sandy soil. Those interested in this species will find an illustration of *S. Fortunei* in Maund's "Botanic Garden." I should be glad to know of any place in this country where this Sea Lavender is grown.

Last autumn, in the course of some remarks on the *Verbascums* or Mulleins, I mentioned a fine white-flowered one I had seen in a garden near me, and which had been obtained under the name of *V. variegatum*. I have, through the kindness of the owner of the garden in which I saw it, obtained a plant, which has flowered well this season; and lately I submitted a small piece to the Rev. C. Wolley Dod, who takes a great interest in the Mulleins, and who is thoroughly conversant with the genus. He has very kindly written me to say that the plant is *V. nigrum* var. *album*, the white variety of a native plant which is common in the South of England. This *Verbascum* is one which deserves to be more widely grown. It is a true perennial, flowers for a long period, and produces a handsome spike of white flowers, resembling, in some respects, the white forms of *V. phoeniceum*, but superior in many ways. The individual flowers are smaller, but are much more numerous, of better form and more lasting. The spike, which is over 3 feet in length, is very attractive, and altogether this Mullein is well worthy of recommendation.

But once more, there are too many flowers in bloom to notice further, and with the wind howling in token of a coming storm, and the tall Sunflowers and Asters swaying wildly I draw these notes to a close, feeling that, though autumn brings with it the forebodings of darksome days, there is still the silver lining to the cloud, which cheers us and gives us much present delight.

—S. ARNOTT.



LÆLIO CATTLEYA ARNOLDIANA.

THE hybrid *Lælia* which was raised by Messrs. Sander & Co. of St. Albans from *Lælia purpurata*, fertilised with the pollen of *Cattleya Mossiae*, and named *Arnoldiana*, has, says "Garden and Forest," flowered in the collection of Mr. Hicks Arnold. The plant justifies all that was said in its praise when it was awarded a medal and a first-class certificate rather more than a year ago at a meeting of the Royal Horticultural Society in London. Mr. Arnold's plant carried eleven flowers, and they showed the good qualities of both parents, especially in the richness of their colouring, from the pale purple of the petals and sepals to the brilliant dark crimson of the lip.

CATTLEYA SCHILLERIANA LOWI.

MESSRS. HUGH LOW & Co. exhibited a beautiful and interesting form of *Cattleya Schilleriana* named *Lowi* at the meeting of the Royal Horticultural Society on July 26th. The variety, which fig. 26 represents, has large flowers, exhibiting much distinctness of colouring. The sepals and petals are green, and are thickly furnished with brown spots. The lip is pale purple streaked with white. The throat is tinged with yellow. The plant shown

exhibited a similar habit to that of the species, and bore two flowers. A first-class certificate was awarded. It is a pleasing and desirable form.

RAISING ORCHIDS FROM SEED.

"L'ORCHOPHILE" has an article on the raising of Orchids from seed, containing some speculations of much interest in addition to practical information. The raising of Orchids from seed tends, it



FIG. 26.—CATTLEYA SCHILLERIANA LOWI.

says, to pass from the domain of the exceptional to that of the practical. At the present time, perhaps, there does not exist one collection in twenty where some seedling Orchids are not met with. It would be a mistake to consider that crossing Orchids, obtaining seed, securing their germination, and raising the young plants are easy; but the number of attempts has multiplied so greatly that it is natural the results worthy of note should have increased in the same proportion. Much has been said about the intervention of insects in the fertilisation of Orchids, and of the crossing of different species by their movements. It is probable, certain if you like; but it is a question that gives rise to many reflections. The plants which can fertilise themselves naturally, which are visited by thousands of insects, rarely give hybrids, and those which cannot fertilise themselves give them frequently. I know that it is difficult to struggle against a fact, but it is not easy to explain it. It may be said that the ease with which plants fertilise themselves is in itself an obstacle to hybridisation, that all the flowers visited by insects were fertilised before the visit. It is possible, but it is not certain.

Certain Orchids grow side by side; it is thus in our own and tropical countries; they are visited by the same insects; it would be natural to expect that the crosses would be much more common than they really are. I presume that there must be frequent checks, judging by the results of the crosses which we make under glass, where the chances of success are greater and more numerous. Generally the seeds which we obtain are not fertile; this happens forty times in 100. Fertilisation appears to have taken place, the flowers wither, the ovary swells, the pod forms, but the seeds are not fertile; there are all the manifestations of fertilisation without any results. But, it may be objected, able operators raise Orchids from seed very easily. That explains itself thus: Experienced operators secure a greater number of successful "fertilisations" than novices, but they only sow the seeds which the magnifying glass has enabled them to recognise as good. Notwithstanding the attenuated character of Orchid seeds their weight is generally considerable, and it is that which explains the localisation of the species. Take a pinch of Orchid seed, a pinch that may contain several thousands, throw it in the air, and a part, the dust, will sink slowly, be lifted by the wind, and float in the air; the good seeds alone will fall at once to the ground. I do not believe in Orchid seeds being carried to great distances; when the pod is ripe and

opens the seeds fall around the plant, where they germinate in quantity, and the young plants often stifle themselves. If a particular variety is found in a meadow search around without going away, and you will very probably find other examples of the same variety that the weight of the seeds has prevented becoming more widely spread.

In a natural state, if crossing between different species were frequent, there would only be hybrid Orchids on the ground, for it must not be forgotten that all hybrid Orchids are more vigorous than the plants which have produced them, and they would not be long before they took the place of their parents. But this is not the case; the artificial crossing effected by insects is very rare. The numerous fertile seeds in a state of nature might be expected to germinate easily, but the proportion of plants which escape the risks attending them in a young state would be very small. It is in view of the dangers to which young plants are exposed that Nature has provided certain plants with thousands of seeds.

In cultivation great attention is paid to the compost which is suitable for the seedlings; in our opinion the best is that of the mother plant. It should not be forgotten, however, that the seedlings require a more constant humidity than the mother plant, and that they also require a regular rest. It is often forgotten that Orchids are bulbous plants, of a special form it is true, but which rest the same as Tulips, Hyacinths, and other underground bulbs. You would try vainly to make young Hyacinths grow all the year. When the time has come for them to rest, the leaves turn yellow, and the part of the plant above the soil disappears. I feel convinced that if Orchid seeds were sown at the time when the plants from which they issued commenced growth greater success would be achieved, while if they were rested at the proper time more of the seedlings would be preserved.

JUDGING HERBACEOUS FLOWERS.

THE misinterpretation of conditions, and the subsequent disappointment thereby occasioned, are things that will of a surety continue so long as loosely worded classes are to be found in schedules. These latter are framed by the Committee, too often in indefinite terms, without any note having reference to a particular class or classes whereby the exhibitor may be guided; but exhibitors as a rule are sufficiently intelligent to know for themselves what is really intended, and if the wording is beyond their powers of comprehension nothing could be simpler than putting the question to the Secretary, and he would bring the subject before the Committee, who would no doubt be able to clearly interpret the meaning they intended certain words should convey.

A schedule should not be a puzzle, and should be discussed thoroughly before going finally to press and then to the public. Where the wording is not sufficiently clear the exhibitor places his own construction upon the class, and this on the show day may be found not to tally with the idea of the committee, who have given their instructions to the judges. These gentlemen are sometimes told to use "their discretion," and again "not to be too hard or exacting;" but I maintain that if the judges pass by errors unnoticed it affords the exhibitors every opportunity of deviating and assuming this or that. I do not say disqualify unconditionally at all times, though perhaps this means, if severe, would be the best in the long run; but I do say this, that every erring exhibit or such as is likely to be in the first three should be branded, and the reason briefly stated on the card; or the exhibit may be disqualified, and if sufficiently meritorious be awarded a special or "consolation" prize. Such a step would demonstrate on behalf of the Committee that the terms of the schedule must be complied with, while a special award would also display their leniency and sympathy with the erring exhibitor.

As regards "herbaceous flowers," some exhibitors appear to think anything will do for these, especially when we see in prominent London exhibitions such things as Tree Pæonies included and passed by without comment, securing a place of honour into the bargain. I have never seen H.P. Roses in pots included as "herbaceous," though they have just as much right there as Tree Pæonies. Then, again, both annuals and biennials very frequently are set up as herbaceous, though quite erroneously. "Northants" speaks of Stocks and Zinnias, but neither of these is "herbaceous," and would merit disqualification, an herbaceous plant being one that "produces annual flowering stems from a perennial root." Such a one may be quite hardy or may require the temperature of a stove or greenhouse, provided it performs the above functions; therefore a class for herbaceous plants or flowers as usually intended should be rendered "hardy herbaceous" to be definite and unmistakable. Their relative or comparative hardiness is of little moment, because societies for these exhibits are common now in

most towns and many villages, and competitors are confined to a given limit as a rule; therefore Kent and Durham would hardly be competitors, while in larger exhibitions classes are framed for the immediate district of the society, and "open" classes for all comers.

With a more careful wording of the schedule much might be done where a thoroughly practical man is secretary, backed by a practical executive; but what may be expected in those instances where a pensioned policeman or a schoolmaster with no knowledge of gardening or plants obtain, and where the executive are the various shopkeepers of the place, and who are quite ignorant of the subject before them?—J. H. E.

WEM.

PROBABLY no shorter heading has ever appeared to an article in the *Journal of Horticulture* than the above. If it had not been for certain Sweet Peas bringing the little name to the front some readers might have wondered what Wem could be; but they have learned that it is not a plant but a geographical expression. It is the name of an ancient looking village some ten miles from Shrewsbury, and the home of certain Peas—some to gratify the eye and render gardens and rooms beautiful and sweet; others to satisfy the palate—all raised by that diligent florist and experienced gardener, Mr. Henry Eckford. His Sweet Peas in their season of flowering are a sight to see, and the long rows of culinary varieties laden with huge pods are not likely to be soon forgotten by those visitors who, to perpetuate a perhaps just admissible alliteration, wend their way to Wem. Many do this not from various parts of this country only, but from the Continent and America; it is the Sweet Peas mainly that attract them.

Mr. Eckford has worked so perseveringly in improving these charming fragrant garden flowers that he may almost be said to have revolutionised them. The advances, however, have been made step by step, a few new colours and a slight increase in the size of the flowers having been obtained each year, so that we have to contrast the varieties of a generation ago with the new ones up to date to fully appreciate the change that has been brought about by the skill of the hybridiser and the selections of the florist. It is easy enough to raise new Peas, at least by those who know how; but the work is not half done then, and rejection, retention, and fixation may be the work of years before pure and distinct stocks are established.

Mr. Eckford has, at an estimate, about 3 acres of Sweet Peas at Wem, and 2 acres of culinary varieties; but these are of the newer varieties only, some of the latest in commerce, with others to follow, and the bulk of his seed is raised elsewhere, where better harvests are obtained than in their cold native parish. Peas grow luxuriantly at Wem, and flower profusely, the Sweet Peas apparently right into the autumn. They are grown in rows 5 or 6 feet apart, with Potatoes between them, of which Mr. Eckford's favourite early variety is Sharpe's Victor, because he finds it the first ready for digging, and one of the best for use. The Peas occupy the same ground year after year, without any loss of vigour; but it is possible their seeding may be prejudiced by the abstraction of potash, one of the chief essentials for a good harvest of seed. When a plant shows an improvement in its flowers, as is the case here and there in most of the rows, it is carefully bent from the row and secured to a stake, while any that may fall below the standard of merit are drawn out altogether. The rows, however, are singularly true, and the long lines of colour, from white through various tints of rose and pink to glowing carmine, from pale lilac through different hues of lilac and mauve to purplish black, have, when in full beauty, a delightful effect, and the air is laden with perfume.

Mr. Brotherston wrote very agreeably and usefully on Sweet Peas last week (page 161), and directed attention to several undoubtedly good varieties. He will grow them again no doubt, and if he is a connoisseur, and wishes to have the latest and the best, let him try such of the following as may strike his fancy, and describe his experience with them another season. They were among the best of the thirty-six varieties staged at the Shrewsbury Show, but looked quite as well in the rows as in those attractive bunches:—Emily Eckford: This closely approaches a true blue, the wings being of a well-marked cerulean tint, but the standard suffused with reddish mauve. Peach Blossom: An extremely pleasing colour, the wings being soft rose shaded with cerise, the standard rosy red at the base, shading upward to pale pink. Ovid: One of the most richly coloured varieties yet raised, being brilliant rosy carmine. Royal Robin: A clear pink, with blush wings and a white keel. Venus: A blush coloured flower, with a suffusion of pale yellow, very distinct. Stanley: A beautiful dark flower, standard and wings being very dark brownish purple, almost

black. Blushing Beauty : Soft pink, suffused with lilac, a distinct and lovely variety. Lady Penzance : Beautiful lustrous rose. The prevailing colours are given, and the flowers are large, smooth, and may be described in somewhat jingling phraseology as some of the gems of Wem.

Among culinary Peas Mr. Eckford has raised several very fine varieties by systematic crossing. With the view to obtain high quality he chose Ne Plus Ultra and British Queen for his base of operations ; and with quality he seeks productiveness. To secure retention a variety must produce its pods in pairs, "singles," no matter how fine, meeting with prompt rejection. In use during the Shrewsbury Show week or the last half of August were the following—Ambassador, 5 to 6 feet, laden with immense pods packed with Ne Plus Ultra-like Peas, and therefore of the first quality. As a dwarf sturdy grower Superabundance stood out prominently, the fine pods being borne in such profusion as to justify the name, if anything would, and the peas tender and buttery. Intermediate between these two in altitude, 3 to 4 feet, but not inferior in any respect, was Colossus, a suggestive name and not inappropriate. These are three very fine Peas, as are the four to follow, presumably next year—namely, Censor, $2\frac{1}{2}$ to 3 feet, with large, full, dark green pods ; Copious, $2\frac{1}{2}$ feet, a mass of splendid pods ; Heroine, 3 feet, robust, dark green, several pods containing ten peas ; and Wem, 5 to 6 feet, bearing from top to bottom. It is lighter in colour than Ne Plus Ultra, but in other respects possesses the same characteristics, plus larger, square-ended, heavier pods. This, with Censor and Heroine, have received the highest number of marks in the Chiswick trials this year, perhaps the greatest ordeal through which Peas have to pass.

It will be perceived that good work is being done on the outskirts of the primitive looking Shropshire village, with its laconic name ; and as many gardens have been enriched already so will many more be in the future, through the skill and industry of a genuine British gardener, aided by his attentive and industrious son, who evidently means to uphold the reputation of the name he bears. Thirty-five years have come and gone since I first met the elder Mr. Eckford—a midnight meeting in a Mushroom house that he well remembers—and I am glad in having had the privilege to "tak a cup o' kindness" with him in these latter days of his busy life, now being happily spent among the Peas at Wem.—AULD LANG SYNE.

ENGLISH ARBORICULTURAL SOCIETY.

THE above Society held their annual excursion on Wednesday and Thursday week in Yorkshire. The Society two years ago visited the West Riding of Yorkshire, which was a most pleasant excursion, and the venue this time was changed to the East Riding, Duncombe Park and Castle Howard, the seats of the Earls of Faversham and Carlisle respectively, being visited.

The party travelling from the North left Newcastle by a special saloon carriage, which the North-Eastern Company placed on most reasonable terms at their disposal, journeying to Helmsley, where they were met by the southern members. After an early breakfast on Wednesday morning the party started to inspect the home nurseries of the Earl of Faversham at Duncombe Park, Mr. Havelock, the head forester, being their guide. The nurseries are over $5\frac{1}{2}$ acres in extent, and include over 1,000,000 million of seedling plants of Sycamore, Elms, Spruce, and Corsican Pines. Mr. Havelock finds it a great advantage to grow many of the forest trees, as greater facilities occur in the planting. The work can be done more expeditiously, and with less certainty of failure, as the plants can be lifted when required. Near to the entrance gates was a very fine Oak tree containing about 220 cubic feet. It was 10 feet 3 inches in girth 5 feet above the ground, and 75 feet in spread of branches. There was also another fine Oak 135 cubic feet, and 8 feet in girth.

HELMSLEY CASTLE.

The party then visited the above Castle, which is a very old and ancient structure, and was evidently well defended. There are two moats, and a formidable drawbridge with porteullis entrance. The walls were 17 feet 6 inches thick. It was demolished in 1644 by Cromwell. Some portions had fallen down, and yet remain like huge boulders, showing the character of the cement or lime used in those days. On one portion, supposed to be the chapel, was growing profusely in wild luxuriance on the top of the wall the Viper's Bugloss. The Castle once belonged to the Duke of Buckingham (whose state apartments were inspected) before being bought by the present noble owner's ancestors.

The kitchen gardens were next inspected. They consist of about $4\frac{1}{2}$ acres. The range of grass is at the entrance. There were six vineries 36 feet long ; the Vines were healthy, productive, and bearing excellent table Grapes. The first vinery entered was all late Grapes, including Black Alicante and Lady Downe's, which were finely finished. The head gardener, Mr. David Williams is able to keep them up to May. In the other houses Muscat of Alexandria, Pearson's

Golden Queen, which was very good, and Black Hamburg constituted the principal varieties. In a cold house was a fine batch of Poinsettia pulcherrima with healthy dark foliage. There were fine Peacheries and Fig houses, all in fruit-bearing condition, and yielding excellent testimony to Mr. Williams' skill as a practical gardener. In the kitchen garden were Callas and Spiraeas planted out in trenches for forcing when required.

DUNCOMBE PARK.

Duncombe Park is now in course of construction, it having been burnt down in 1879. Near to the terrace there are to be seen some very old Oaks, very much forked and supposed to have been planted over 800 years. There are also Sycamores, Oaks and Chestnuts, all in various stages of growth, that have been planted by the members of the noble owner's house as they have been married. There are also memento trees by the Prince of Wales and the late Prince Albert Victor, which were planted in 1887, the former having planted *Picea nobilis* and the latter *Acer pseudo-platanus purpureus* and *Cedrus Libani*. The home terrace is very fine. It is very level and well kept, the grass being short and velvety in texture. At each end there is a temple, one in the Ionic and the other in the Tuscan style. There is also a quaint old sundial. The mansion was built in 1718, and is in the Doric style, by Sir John Vanbrugh. Close to it is a very fine Beech tree, the stem clean and straight ; its quarter girth is $25\frac{1}{2}$ inches, and it contains over 200 cubic feet. This tree received much admiration from the Society. There was a still finer Beech of $37\frac{1}{2}$ quarter girth. Some splendid Yews were also inspected, averaging 7 to 8 feet in girth 5 feet from the ground.

At the south end of the home terrace, before approaching the Tuscan terrace, there are two fine views. On the right is Helmsley Castle ; on the other side a fine cascade of water, falling impetuously down amongst the rugged boulders. These views were much appreciated, the sylvan foliage being of every hue, and the height above the River Rye, with its winding and tortuous course, made the whole scene sublimely impressive. To the south, close to the Tuscan Temple, is a good view of the plantations of Duncombe Park. Mr. Havelock has 6000 acres under his charge. These woods are horseshoe in shape and about sixteen miles in length, extending from Helmsley Bridge to Riccal Bridge. The mansion is built in the centre on an elevated plateau, where the scenery from all parts is enchanting. Near to the Nelson Gates is a fine avenue of Beeches. A curious old Lime was observed, which is supposed to have been planted 300 years. It had the appearance of having two stems, which by some cause had been divided. These are bound by huge chains, and the trunks are literally covered for over 30 feet with *Polypodium vulgare*.

The party then entered the carriages, and after a sharp drive through the park, where several fine groups of fallow deer were seen, the Home Farm was reached. It is a model one in every respect. The fine bull, "New Year's Gift," four years old, purchased from the Queen's sale at Windsor last spring for 1000 guineas, was inspected. His fine proportions gave the party much pleasure ; his weight is 25 cwt.

RIEVAULX ABBEY.

This fine Abbey was built in 1128. St. Bernard, Abbot of Clareval in France, and founder of the Cistercian Brotherhood, sent some monks over to the King, who received them kindly, and the grand old warrior, Walter l'Espece, granted them his protection, gave them the ground to build the present Abbey, and liberally endowed it. The Abbey was designed by one of the monks, William, the first Abbot ; it is a lasting monument to the learning and skill of the monks of that age. The magnificent terrace of Rievaulx is over half a mile in length, and from every point a splendid view of the Abbey is seen. It is perfectly lovely, and stands some considerable height above the river, so as to overlook the ruins of the Abbey which was dismantled 300 years ago. This terrace was planted by Sir Thomas Duncombe in 1758 to commemorate the finishing of the estate. It is almost impossible to describe its beauty. Mr. Havelock has exercised great skill in cutting out views at every angle so as to see the beauties of the dale and the far-off Hambleton Hills. From here the party drove to Carlton Woods, where some fine Larch and Austrian Pine were inspected, and this ended the first day's excursion.

About fifty members sat down to dinner at the Black Swan Inn, Helmsley, Mr. James Watt, Carlisle, Vice-President, in the chair, and Mr. Beadon and Mr. Bernard Cowan in the vice-chairs. After the usual loyal toasts, that of the Society and also of the Scotch Society, had been drunk, the officers were elected, including Lord Masham as President, Mr. Ross, Swinton, Masham, presented the Society with a dendrometer for measuring trees, which is his own invention. It is a very ingenious instrument. The Society accepted the gift, and it is hoped it will form the nucleus of a museum, which has long been in contemplation.

The party was astir early on Thursday, and in the carriages by 9 A.M., when a move was made to the Fox Covert Plantation belonging to the Earl of Faversham. This has been a very fine plantation, one of the most successful in Yorkshire. On the 19 acres there were 1945 trees, including 1327 Larches. The Larch were about 80 years' growth. They averaged 38 1-6th cubic feet, and one remaining as a sample measured $23\frac{1}{4}$ inches in quarter girth, and contained 135 cubic feet. From here the party had a sharp walk through the Golden Square Plantation, entered their carriages, and then made a slight halt at Hoveringham, where, by the permission of Sir W. C. Worsley, a fine Scotch Fir was inspected, 300 feet high, and 33 inches quarter girth. There was also in the village a Horse Chestnut 13 feet in girth.

CASTLE HOWARD.

Entering the carriages a quick drive brought the party to Castle Howard. Thortle Woods were first inspected, where the company was received by Conrad Dillon, Esq., brother to the Countess of Carlisle; Mr. Fell, head forester; and all the leading officials of the estate. The woods are remarkable for the Spanish Chestnuts they contain. They equal those planted a good deal further south. Their success is attributed to their being interplanted with Oaks, which gave the necessary shelter. A fine Larch plantation planted twenty-three years after the Oaks was most successful and free from disease. The Society was then shown some successful "Ball planting" (the Forester's technical name), which was much commented on by the experts of the Society. The result has been most satisfactory, and it may be stated that this estate of over 1800 acres could have never been so ably managed otherwise, as it was entirely overrun with rabbits. The trees have been shifted from five to eight years old. They consist of Larch, Oak, Chestnut, Beech, and Spruce. At this age the trees are valueless after thinning from a commercial point of view, but when shifted with good "balls," although the expense of planting is great, the trees are soon equal to those in the quarters they have been transplanted from. The north and south Bell Bottom Woods contain some very fine Oaks. Comhagg Woods is a further proof of "Ball" planting, which has been exceedingly successful, especially with Larch and Beech, done two years ago. In this wood was a splendid Oak, a remnant of the old forest, containing 262 cubic feet, and 34 inches quarter girth; it was valued at about £32 10s. There is also here a fine Oak plantation planted after Oak about twenty years ago doing well.

The party, at the invitation of the Earl of Carlisle, then proceeded to the Castle to luncheon, which was held in the Grecian Hall. The Hon. Conrad Dillon presided, supported by Vice-Presidents Coroner Graham, J. Watt, and Wm. Fell. The chair was also supported by the Hon. Geoffrey Howard, the Hon. Michael Howard, the Hon. Misses Dillon, and the Hon. Arthur Dillon. After a superb repast Mr. Coroner Graham moved a vote of thanks, which was responded to by the Hon. Conrad Dillon in the absence of the Earl of Carlisle. The party then, under the guidance of Mr. Dillon and the ladies mentioned, viewed the Castle, which contains a marvellous collection of pictures, old china, and cut glass, after which a hurried move was made to the gardens, where, under the guidance of Mr. J. Riddle, the head gardener, every object of horticultural interest was pointed out. On emerging at the south entrance an Italian flower garden was inspected, in the centre of which is a very fine fountain with statuary. The kitchen gardens are most extensive, and contain an excellent collection of herbaceous plants. In a border was also a marvellous display of Carnations, together with Shirley and Iceland Poppies. In the vineries Gros Colman, Black Alicante, Pearson's Golden Queen, and Foster's Seedling were the principal Grapes grown, and were of much cultural merit. In one of the vineries was a Fuchsia named Mrs. Marshall, more than 5 feet through, only fifteen months old. There are large stoves and ferneries. At the cool end of the latter was a fine specimen plant of *Bougainvillea glabra*. In the stoves *Eranthemum Andersonianum* was in flower, and there were some fine plants of *Stanhopea oculatus*. There is also a fine conservatory 65 by 65 feet, which is also adapted as a vinery, and will rank as one of the largest in England. Space does not permit of more being said about these gardens, but under the judicious management of Mr. Riddle no one in this neighbourhood ought to miss an opportunity of visiting them, as much of an interesting, educational, and instructive character in gardening will be found.

I append a few historical reminiscences of the Howard family. The present distinguished owner is directly descended from Sir Walter Scott's Belted Will of Romance, or Lord William Howard. The latter was the second son of the fourth Duke of Norfolk. This remarkable family have had twenty peerages conferred upon them in 400 years. Lord Howard is immortalised as the Lord Warden of the Marches betwixt England and Scotland. He was an intrepid commander, and was the fear and terror of unlawful marauders in the district. Sir Walter Scott says:—

"His Bilboa blade by Marchmen felt
Hung in a broad and studded belt,
Hence in rude phrase the borderers still
Call noble Howard 'Belted Will,'"

However, the learned Dr. Lonsdale, M.D., in his admirable biography of the Howard family, thinks that it referred to Baldrick or Broad Belt, worn in that day by persons of high position; Belted Will, in his opinion, meaning Bauld or Bold Willie, as it is proved that his belt was very small and unassuming. Belted Will was born on December 19th, 1563, and died October 9th, 1646. He was married October 28th, 1577, to Lady Elizabeth Dacre. It was this union that brought northern estates into the possession of the Carlisle family. There is a fine obelisk, erected 100 feet high by the third Earl of Carlisle in commemoration of the planting of the grounds with trees and the finishing of the buildings, the inspection of which afforded the party much instruction and pleasure. Mr. Fell, the forester, was complimented on the condition the woods were found in. After a hurried look at Slingsby Castle the party joined the saloon carriage at the Slingsby Station, and set out for their respective destinations, all highly pleased with the enjoyable and instructive visit they had had. It adds another pleasant recollection to the annual meetings of the English Arboricultural Society.

There was a large number of members present, including Mr. Jas. Watt, Carlisle; Mr. Coroner Graham and Mr. Wm. Fell, Vice-Presidents;

and Messrs. J. F. Robinson, Burnopfield; W. Scott, Burnopfield; Wm. Forbes, Masham; Geo. Cooper, Gateshead; Jos. Graham (Chairman of the South Shields and Westoe Burial Board) South Shields; F. W. Beadon, Huddersfield; John Balden, jun., Assistant Secretary, Hexham; Fröken Marsh, South Shields; Fröken Silven, lady botanist from Wallinska; S. Rolan, Stockholm, Sweden; Thos. Vasey, Master Thos. Vasey, James Muir Smith, Capt. Davidson, Ed. Lincoln, Bernard Cowan, and Master John Joseph Moran, South Shields; J. R. Brown, J. W. Robson, W. B. Havelock, Helmsley; A. Ross, Skipton; Councillor Thornton and Hebden Barker, South Shields; C. Lonsdale, Carlisle; G. Gallic, Ravensworth; and R. S. Balden, Hanging Heaton. The party were much pleased with the able way in which Mr. J. Balden escorted them in the unavoidable absence of the Secretary, Mr. J. Davidson.—BERNARD COWAN.

OAKLEY HALL, BASINGSTOKE.

DOUBTLESS many passengers by the South-Western Railway, riding from Basingstoke towards Winchester, have noticed that the line cuts, as it were, a big slice from off a pretty park a few miles below the former town. That is the park attached to Oakley Hall. The entrance, however, is found nearly a mile across on the other side, and within fifteen minutes' walk from the Oakley station on the Salisbury line, which branches out from the main line not far above. The park and mansion are not old. The trees, which are largely of Beech and very handsome, are perhaps 100 years planted, perhaps less; but the house is a comparatively modern erection, almost entirely of red brick, a somewhat bold Elizabethan style, and is reached from the entrance lodge in about half a mile through a gentle ascent. The entrance side of the house is enclosed by a bold balustrading, having entrance and exit on either side. The object of this enclosure is not evident, but it is not at all an objectionable feature. That side of the house is well covered with evergreen climbers, but the garden front is quite bare. That seems a pity, but the owner, Wm. Beach, Esq., M.P., or rather his lady, objects to such coverings. It is right to say that just at present the house and gardens are in the occupation of W. P. Gilchrist, Esq., a London merchant.

The grounds were laid out by the elder Milner some years since, and exhibit many features that render them pleasing as well as interesting. The peculiarity of the situation of the mansion is that it stands on rising ground, so that on its garden side, to secure a level flower garden, it was found needful to excavate one from the elevated ground, and thus the flower garden is on its outer margins surrounded by sharp slopes, which increase in depth the further it recedes from the house. To the onlooker this is rather an advantage, as from the upper lawn a capital view of what is a beautiful parterre flower garden is obtained. Immediately fronting the house are two fine carpet beds, but beyond all the parterre is planted with the best forms of bedding plants in rich profusion of colouring, with studied balance and effect. The pretty Begonias Princess Beatrice and Afterglow make charming masses, blooming most profusely. Phlox Drummondii, Marguerites, Fuchsias, Heliotropes, Begonias, and Pelargoniums all have places, and Mr. Weaver merits high praise for his beautiful combinations. In addition to the beds there are dotted at regular distances very fine and handsome specimen Irish Yews, Golden Hollies, and Portugal Laurels.

On the right side of the mansion, joined to it by a glass corridor filled with climbing Roses, Palms, &c., runs out at right angles a noble conservatory in three divisions. The first is a fernery representing natural rockwork, done in Pulham's best style. This is delightfully dressed with choice Ferns planted in the rockwork, including *Adiantum gracillimum*, *concinnum*, and *dolatum* *Legrandi*, very interesting with its fronds composed of close setting tiers of foliage; *amabile*, *cuneatum* *grandiceps*, and many other choice varieties; some good Tree Ferns also adorn the rockwork. This place would make a beautiful picture. The centre division has on the floor a large fountain, with Water Lilies in the base, whilst fine Tree Ferns stand round, and plants of various descriptions ornament the sides. The roof is in the form of a lofty dome, and is draped with the variegated *Cobœa scandens*. The third division is chiefly furnished with fine Ferns and Palms, of which there are numerous large specimens, and on the roof hangs a truly superbly coloured *Bougainvillea glabra*, the racemes of flowers or bracts hanging down in rich profusion. On the other hand, *Bougainvillea spectabilis* cannot be induced to bloom at all, though growing robustly. From the mansion and beyond the flower garden the rising lawn is very finely dressed with large numbers of handsome Conifers, fine trees and shrubs, the centre figure of the remote lawn being a large group of Conifers, which creates two fine grassy glades that run away insensibly into the park.

At the extremity of one of these, but hidden by trees, is the gardener's cottage; to the right are the kitchen gardens, and away in the distance is an ancient enclosure where there are many notable features. First is a sort of court or quadrangle, of perhaps an acre in extent, entirely enclosed by a wall, and Yew trees some 40 feet high. In the centre is a grand Beech with a circumference round the branches of about 220 feet, and as sort of sentinels there is at each corner a very fine *Taxodium sempervirens*, perfect specimens and of great height. An opening at one side exhibits a vista of turf, walled in on either side by gigantic Box trees. These are literally woods of some 30 to 40 feet in height, and wonderful to see. Probably there is hardly to be found in the kingdom so fine a Box tree grove as is this. Beyond this runs an avenue of fine Chinese Junipers, backed by numerous Conifers. *Picea Nordmanniana*

is close by coning grandly, driven to do so perhaps because of the shallowness of the soil and the contiguity of the chalk. About the grounds *Cedrus atlantica*, *Wellingtonia gigantea*, *Thuia Lobbi*, *Lawsoniana*, and *gigantea* furnish numerous splendid specimens. Beyond the grove to which I have referred the ground rises to its greatest height and presents a noble site for a mansion, overlooking the park in all directions, and commanding glimpses of the remote country and the main line of the railway in the foreground. Turning to the kitchen gardens these are found to be first enclosed by a tall Yew hedge planted by Mr. Milner, although for what reason is not obvious. This is on the upper side of a sloping border employed for the growth of vegetables; then comes a broad footpath, then a narrow border and within all the garden wall. Outside this hedge and on the southern side is a number of glass houses devoted to plants and fruits, also numerous frames; standing about these now indispensable plant adjuncts are many fine *Chrysanthemums*, and everything is excellent and well cared for.

surface soil. Raspberries do badly, only old local sorts thrive. Black Currants do badly also, except Carter's Prolific, which does very well. The only good Strawberries for the soil are Héricart de Thury and Sir Joseph Paxton. Curiously enough Seakale from root cuttings is first class. Mr. Weaver mentions that by sowing his various seeds after being damped and mixed with red lead his beds are never interfered with by birds. The entire place is admirably kept, and well repays a visit at any time.—A. D.

A LITTLE-GROWN PERENNIAL.

TRICYRTIS HIRTA.

THIS attractive herbaceous plant, although well known in many large collections, is by no means in general cultivation, and is in fact quite new to many persons. The annexed engraving (fig. 27)



FIG. 27.—TRICYRTIS HIRTA.

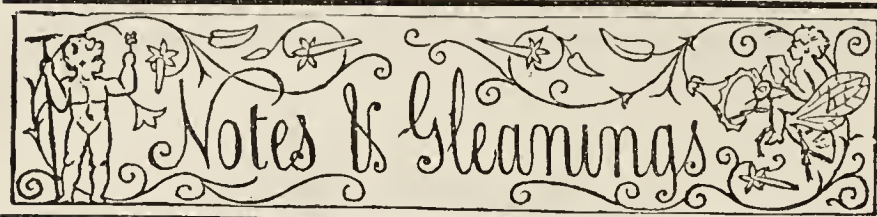
The chief fruit range, however, is in the kitchen garden, where there are growing capital Grapes, Figs, Peaches, &c., Grapes especially were excellent, really good crops of good useful bunches. A few years since Muscat of Alexandria took to shanking. Mr. Weaver, therefore, took out all the soil of the inside border, carefully lifted the roots, tied them up for two days, remade the border, and relaid the roots, started the Vines in the month of February, giving a gentle warmth, and secured the same season an excellent crop. He has not been troubled with shanking since. Gros Maroc Grape is good, so are Lady Downe's and West's St. Peter's. Dempsey's Alicante is here later, and has much smaller berries than Meredith's Alicante. The latter variety grafted on Barbarossa is fully a month later than on its own roots. Foster's Seedling, Buckland Sweetwater, and Black Hamburg Grapes, are also well done. Negro Largo Fig, that was formerly gross and barren, was made very fertile by having the border in which it is growing greatly reduced by a brick wall.

The kitchen garden is good and prettily interspersed with flower borders. Vegetables do finely. Celery, Onions, Lettuces, Peas, and Potatoes are all good crops. Apples are very fair, but the best Pear trees are those on the Pear stock, whilst trees on the Quince do badly, the leafage turning yellow. The roots seem to prefer the chalk subsoil to the

represents very fairly the clusters of flowers, which rise from the axils of the leaves on the upper part of the stems. The latter usually reach a height of 3 to 4 feet, and bear numerous sessile, clasping, hairy, alternate leaves. The flowers are white, thickly dotted with purple, the divisions of the perianth being slightly recurved. The plant is hardy, and will thrive extremely well in a sheltered border composed of sandy loam and peat; but as the flowers appear late in the season, the leaves are often by that time shrivelled, and present a very unsatisfactory appearance. For this reason the plant seems to be best suited for pot culture, and it is well adapted for growing in a greenhouse or any structure of a similar temperature. The flowers also are seen to much greater advantage when near to the eye than if the plant occupies a border, where the fine markings of the sepals are quite lost. It can scarcely be imagined what pretty little buttonholes the flowers make when mounted, and they are also well suited for bouquets. During the time the plant is growing freely and until the flowers are produced abundant supplies of water will be required, but after the flowers have faded water must be given in smaller

quantities, only sufficient to keep the soil slightly moist. The pots must be thoroughly drained, and the soil employed should consist of loam, sand, peat, and a small proportion of leaf soil may be added.

This species of *Tricyrtis* was originally named by Thunberg *Uvularia hirta*, but since Mr. Fortune rediscovered the plant in Japan, and sent specimens to Mr. Standish of Bagshot, the old generic name has been discarded in favour of the one given above. The name *Tricyrtis*, we may remark, is derived from two Greek words, and refers to the three sac-like convexities at the base of the outer divisions of the perianth.



EVENTS OF THE WEEK.—The show list is not so heavy this week, but there are one or two important exhibitions to be held. To-day (Thursday, September 1st) the Royal Oxfordshire Horticultural Society's Show takes place at Oxford. On Friday and Saturday, September 2nd and 3rd, the National Dahlia Society's Exhibition is to be held at the Crystal Palace. On Tuesday, September 6th, the Committees of the Royal Horticultural Society will sit at the Drill Hall, Westminster. On Wednesday and Thursday, September 7th and 8th, the National Chrysanthemum Society will have a Show of early Chrysanthemums, Dahlias, Gladioli, and vegetables at the Royal Aquarium, Westminster; and the Exhibition of the Royal Caledonian Horticultural Society will take place on the same day.

THE WEATHER IN LONDON.—The weather during the past week has been of a variable character. The 27th was signalised by a rain of almost tropical heaviness, which continued until the morning of the 28th. Some particulars of it are given in another paragraph. Subsequently the weather has been in the main fine, but broken by occasional heavy showers. At the time of going to press strong westerly and south-westerly winds are blowing. The weather is bright, and the glass firm.

ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Society will take place in the Drill Hall on Tuesday, September 6th, at 3 P.M. A paper on "Root Pruning" will be read by Mr. Geo. Bunyard, and ought to evoke some discussion among amateurs. The Council have offered substantial prizes to the best grown varieties of Gladioli, to be competed for on the occasion, as have also Messrs. Kelway for the best British raised forms of *Gladiolus gandavensis*.

HAMPTON HORTICULTURAL CO., LIMITED.—This Company was registered on the 25th ult., with a capital of £3800, divided into 760 shares of £5 each, to carry on in Great Britain, Ireland, and elsewhere the trade or business of florists, nurserymen, farmers, and gardeners, or merchants of flowers, fruit, vegetables, &c. Registered by Nash & Co., 12, Queen Street, London, E.C.

NEW HEAD GARDENER AT ROOD ASHTON.—Mr. A. Miller, gardener for the last sixteen years to W. H. Long, Esq., Rood Ashton, Trowbridge, is leaving that place, and it is to be hoped so good a gardener will not long be disengaged. Mr. Miller will be succeeded by Mr. W. Strugnell, gardener to A. R. Baily, Esq., Frome, and formerly foreman under Mr. W. Iggulden in the gardens, Marston House.

GARDENING APPOINTMENTS.—Mr. Samuel Reece, for the past thirteen years gardener to Robert Whyte, Esq., Pentland House, Lec, and under whose care the yellow Arum Lily (*Calla pentlandiense*) first grew and flowered in this country, has been appointed gardener to W. J. Jarratt, Esq., Hatton House, Westgate-on-Sea, Isle of Thanet. Mr. Walter Taylor, late of Wimbledon House, has been appointed head gardener to A. T. C. Cartwright, Esq., Edgcote Park, Banbury, Oxon.

IMPROVEMENT IN BARLEY.—At Messrs. Carter & Co.'s experimental farm at Bromley several important experiments have been made for the improvement of Barley, more particularly in the matter of strength of straw and robustness of plant, so that it can better resist exceptional climatic influence in the form of wind, rain, or hailstorms. It is confidently anticipated that some valuable progress will result from Messrs. Carter's labours in this direction.

PEACHES.—I send a sample of Peaches, Princess of Wales. The crop is, on an average, one fruit to each $7\frac{1}{2}$ square inches. Some were a shade larger and some a shade smaller than the sample. The tree, which is indoors, bears a similar crop annually.—S. SCOTT, *The Gardens, Rathmore, Belfast*. [The fruit was 10 inches in circumference, very good for a heavy crop, and of excellent quality.]

RAMONDIA PYRENAICA.—I find that this alpine succeeds best in a compost of peat and loam, the former predominating. Planted in the ordinary soil of the rockery the plants hardly grew at all for several years, although shaded, and certainly never flowered; but since moving them to a north aspect, where a stone slightly overhangs them, and employing a compost as described, I get on tolerably well with them.—E. M.

BARON SCHRÖDER.—An impression appears to have gained ground that a baronetcy has been conferred on Baron Schröder, of The Dell, Egham, and some may have thought the *Journal* a little behind the times in not having an announcement to that effect last week. We were all right in the matter. There are two Baron Schröders, and it is not the Baron of horticultural fame who has been caught in the shower of honours attending the change of Government, but his brother at Liverpool.

EALING GARDENERS' ASSOCIATION.—The annual outing of this useful body took place on the 25th ult. by the kind permission of T. McMeekin, Esq., at his charming place, Falkland Park, South Norwood, a description of which was given in these columns recently. The extensive alterations and improvements, which are being so ably carried out by his gardener, Mr. A. Wright, proved a source of much interest and instruction to the visitors, who unanimously expressed their approval.

THE POTATO DISEASE REPORTED SPREADING.—The Potato blight is said to be extending in the Ashford district and on the borders of the Weald of Kent. It has also made its appearance at Oxted and other parts of Surrey. "The Potato disease is spreading to some extent in the neighbourhood of Liverpool," writes "R. P. R." I never remember the tubers turning up in finer quality or in greater abundance than this year. The heavy rains, and the murky, oppressive atmosphere, are doing a great deal to help forward the disease, this being apparent in the haulms of most varieties."

ASPARAGUS DEFLEXUS.—I saw in your issue of last week that the above beautiful Asparagus had received a first-class certificate. I am not at all surprised at that, after seeing it for the first time, a little more than a week ago, at Knowsley Hall. Mr. Harrison, Lord Derby's esteemed gardener, has planted it alternately with *A. plumosus*, and intends it to cover the back wall of a house occupied with cool Orchids and Ferns. It was doing remarkably well, and in bringing it to my notice Mr. Harrison stated the very high opinion he had formed of it for decorative purposes. That it is a plant which will be more extensively grown no one, after once seeing it, can for a moment doubt.—R. P. R.

DISQUALIFYING EXHIBITS—FRUIT AND VEGETABLES.—I was amused after reading "R. C.'s" remarks on this subject. Whoever disqualified a collection of vegetables because it contained Beetroot ought never to judge again. With regard to Cucumbers and Tomatoes, I maintain that they should be included in all collections of vegetables. The way to know what is a fruit is to ask oneself, What is right for a dessert table? Then we know that a Melon is really a fruit, and that Cucumbers and Tomatoes are for the bread and cheese. Perhaps some one might give Tomatoes, Cucumbers, and Marrows some special name or class if necessary.—A. J. L., *Reading*.

HOLLYHOCKS FROM THE NORTH.—I have much pleasure in sending you blooms of my seedling Hollyhock John Cairns for inspection, together with a few other exhibition varieties. It is pleasing to relate that the fungus has not made its appearance in any of the gardens I have visited this season, and it is to be hoped we shall not be troubled again with this pest. It is obvious that when a little care is taken with the old stools in the autumn there is not much trouble in keeping the plants clean the following year, and there is no greater pleasure than to be able to look upon a well-grown collection of Hollyhocks.—GEO. STEEL, *Heatherslaw, Cornhill-on-Tweed*. [The flowers Mr. Steel sends are magnificent, and remind us of their quality in years gone by. Grace Darling, rose; John Cairns, pale yellow suffused with rose; Queen of Yellow, primrose; and Purple Prince, deep purplish crimson, are superb.]

— **WOODBIDGE HORTICULTURAL SOCIETY.**—We are pleased to find that the excellent summer Show of this Society was a financial success. Captain R. J. Carthew has offered his grounds for the floral fête next year, which is fixed for July 13th. Mr. John Andrews is the efficient Secretary of the Society, and works zealously for its success.

— **HOLLYHOCKS FROM WEST DULWICH.**—Double Hollyhocks have still an active supporter left in the West Dulwich grower, Mr. Smith, who annually calls at the *Journal* office with a box of choice blooms. His last visit was on August 25th, and the flowers he brought were excellent in type, being finely formed, full, and substantial. The colours varied greatly, rose, pink, crimson, lemon, cream, and others being represented. The blooms served as a pleasant reminder of old times.

— **SCORTON HORTICULTURAL SHOW.**—The second annual Exhibition in connection with the Scorton and District Floral and Horticultural Society was held on Monday in the New Institute at Scorton, and was a great success. There were over 100 exhibitors. Mr. T. Lawson of Ellerton made close upon fifty entries, and won numerous prizes in the different departments. A prominent feature of the Exhibition was a magnificent display of Roses sent by Messrs. R. Mack of the North of England Rose Nurseries.

— **TORQUAY DISTRICT GARDENERS' ASSOCIATION.**—It is always a pleasure to wish success to an organisation having the welfare and progress of horticulture as its main object, and as the Torquay District Gardeners' Association comes into existence with this end specially in view it merits recognition and encouragement. That it fills a want would appear to be evident from the fact of nearly 100 members having already joined; may its numbers continue to grow. W. H. Lavers, Esq., has been elected President, and Mr. Fred. C. Smale, 1, Knowsley, Avenue Road, Torquay, Hon. Secretary.

— **LYNTON HORTICULTURAL SHOW.**—This Society held its eleventh annual Show on the pretty Manor Ground, Lynmouth, kindly placed at the disposal of the Committee by Mr. C. B. Jeun. The weather proved most auspicious, and this, together with the interest which the inhabitants and visitors to the twin towns take in this annual Show, drew a large attendance. The Society has never been in the fortunate position of being able to enter upon a year with a balance in hand, but this year's Show will probably usher in a new era financially, there being a large attendance. The whole of the classes were well filled.

— **ELECTRICITY IN MARKET GARDENING.**—Several years ago the interest of horticulturists and gardeners was drawn to the electric light as a substitute for, or valuable adjunct to, sunlight in forcing plants. We heard at the time of Strawberries and other fruits ripened by electricity, but few people gave any credence to the story, and those who did were mostly deterred from making further experiments in this direction on account of the expense entailed. This difficulty appears to have been overcome in America, for at Boston a Mr. Rawson has, it is said, successfully cultivated and is cultivating large crops of vegetables by electric lamplight. He has covered in several fields with glass. The electric light is used only at night, and the effect in forcing the growth of Lettuces and similar vegetables is said to be extraordinary. This opens up a wide field for the horticulturist, and we may expect in due time to have many kinds of fruit and vegetables that are now restricted to particular seasons, except at prohibitive prices, available all the year round.

— **MARKET REFORM.**—The "National Observer" has come to the rescue of the small grower, and calls attention to the anomalous position he occupies with respect to the commission agent, who charges so much per punnet or bushel sold instead of a per-centage on the gross amount realised. Under this condition of affairs it does not matter what the price realised may be, good or bad, his commission is the same. But our contemporary goes on to comment on a still more significant fact—namely, that agents are very often dealers in what they sell on commission, and even growers or producers of the articles which they sell on behalf of others. What this opens the gate for is obvious. "What is affirmed—and that with emphasis"—says the "National Observer," "is that, if there be such a thing as a wicked salesman, he may sell another man's goods to himself at the cheapest and resell them to the public at the dearest rate without breaking any Commandment openly, or showing a vulnerable point to

the law; and that if the London market system be not rotten to the core, it can only be because all salesmen whatsoever are so very noble and virtuous that not the connivance of the law, nor the unprotected condition of their customers, nor even the love of profit, may tempt them out of the path of rectitude and the way of honour. But many ugly stories are current among their customers, and of late unpleasant facts have come to light." No doubt the system has been abused by unprincipled men, but there is no lack of salesmen who act with the greatest fairness, and give full satisfaction to the growers of garden produce with whom they deal.

— **CROTONS AT DOVER HOUSE, ROEHAMPTON.**—"J. B." writes:—"In the well-kept gardens of Dover House, Roehampton, I noticed recently a wonderfully fine collection of Crotons, some fifty-six varieties, very brightly, indeed unusually well, coloured, and forming a capital display of these useful decorative plants. Noteworthy were Reedi, Cronstadt, Chelsoni, volutum, Lord Chelmsford, aigburthensis, Mrs. Norman, superbum, Countess, and Prince and Princess of Wales. Mr. J. F. McLeod, the able gardener, is to be congratulated on his culture of these plants. Chrysanthemums (some 1500 plants) and Carnations in thousands, with other well-grown classes of plants, also attest to his skill as a cultivator."

— **TELEKIA SPECIOSISSIMA.**—Probably few visitors at Rede Hall on Wednesday week saw the fine plant of this grand hardy perennial there, and which is certainly so rare that it is seldom met with. Mr. Cottle drew aside a few Conifer branches in one part of the grounds, and there, revelling in the shade and seclusion, was a fine specimen carrying several stems some 4 feet in height, and producing very large single yellow flowers fully 4 inches across; the petals are thread-like, resembling those of a fine-petalled single Japanese Chrysanthemum. The variety evidently likes shade and seclusion. It is not mentioned in the select lists of hardy perennials published in the report of the proceedings of the Royal Horticultural Society of November, 1891, that includes almost every known good hardy plant.—D.

— **PHLOX AVALANCHE.**—I do not know whether this variety of the herbaceous section is new or not, but I learn from Messrs. Collins and Gabriel's foreman at Hampton that it had not been certificated. Certainly there are few varieties more worthy that honour. It carries fine trusses of large flat pips of pure white colour, the individual blooms being larger than a pennypiece, and forms one of the best white hardy flowers for pots or borders I have seen. In the Hampton Nursery it is grown in considerable quantity. The heads are on stems 20 inches in height, on second-year bottoms, and on spring-struck cuttings it would be some 6 inches shorter. What a fine thing for any form of plant decoration would be a large quantity of such dwarf plants in pots, carrying single heads! I commend it to all lovers of the Phlox very heartily.—A. D.

— **ALLOTMENT ASSOCIATION.**—I have a recollection of reading some long time ago an account of the forming and working of an Allotment Association, by which means the holders procured seeds, &c., also disposed of part of their produce to advantage. My employer has recently cut up a 10-acre field in addition to others already existing, cottagers holding 10 or 20 rods, one or two others who keep a cow having an acre. Our clergyman and myself are interested in the matter, and wish to encourage it. We think that by the holders combining more life and energy will be thrown into the work. If any of your readers can assist us with useful hints, or give us the address of a secretary of an association that is working successfully, I shall feel greatly obliged.—GEO. NOTTAGE, *Gardener to J. Bonham Carter, Esq., Adhurst, St. Mary, Petersfield.*

— **RAWMARSH AND PARKGATE FLOWER SHOW.**—The annual Show of the Society formed for the promotion of gardening pursuits in the Rawmarsh and Parkgate district took place on August 16th. The Rawmarsh Cricket Club had kindly lent their field, which was in every way well adapted for the event. Financially the Society is in a fairly good position, the accounts for 1891 exhibiting a substantial balance in the bank after discharging all liabilities. The proceedings were largely attended, and there is no doubt that the gate money will compare most favourably with that of any previous local undertaking of this description. The prize money amounted to £50, and for the most part the competition was keen. There were two sections—amateurs' and cottagers'—each being well represented in pretty nearly all sections. Vegetables were excellent, and several good collections of fruit were staged. Plants in pots were fully up to former years, while amongst the

cut flowers were several exceptionally fine blooms. For Roses the season has been a good one, and the display, though not large, was exceedingly creditable.

— HOW STOLEN FRUIT WAS STORED.—Three schoolboys, William Harden, Charles Blackwell, and William Whicker, were charged on remand at the Hampstead Police Court with stealing from a garden sixty-five Pears, value 1s. 6d. They were seen in the garden, and a constable was called in. When caught Whicker pretended to faint. Blackwell and Whicker had stowed the Pears away in the legs of their trousers, having previously tied the bottoms of the legs with string. Prisoners were fined 2s. 6d. each, the bench expressing the hope that the parents would inflict proper chastisement.

— LATE STRAWBERRIES.—Having lately been able to pick about every other day a dish of bright, good-flavoured Strawberries from early forced plants of my favourite variety, Vicomtesse Héricart de Thury, and as it came about by a very simple mode of treatment, I thought it worth recording. When the plants were removed from the forcing houses they were placed under a north wall, and kept well watered, with the result that they threw up abundance of green leaves and flower trusses. They were then placed on the low shelves of a late Peach house, and treated as pot Strawberries usually are, and are at the present time a useful addition to the dessert.—R. MAHER, *Yattendon Court, Newbury*.

— AN ENEMY IN FLEET STREET.—Fleet Street and neighbourhood, says the "City Press," have been visited of late by a plague in the form of mosquitoes. In some of the offices they appear in swarms, and cause infinite annoyance to the unoffending occupants, who are savagely bitten in unprotected parts of the body. Large lumps are raised, and irritation is set up, which sometimes lasts for more than a week. They are a small kind of mosquito, but are quite as troublesome as the Australian breed. They move about with marvellous celerity, and have a curious knack of making themselves invisible. The theory is that these little tormentors have been imported from Algeria with the esparto grass from which paper is made, and have come from the paper mills to London. They have not appeared at the *Journal* office yet, possibly having scented the stacks of insecticides awaiting trial there.

— A HEAVY RAINFALL.—There was an exceedingly heavy rainfall in London on Saturday, August 27th. It commenced soon after 1 P.M., and continued with little intermission until about 9 A.M. on the morning of the 28th, the rain falling in torrents during a great part of the time. In some places 1½ inch was registered, in others as much as 1¾ inch, marking it as one of the heaviest falls for the time of year on record. Writing to one of the daily papers from Canonbury, which is in the North of London, Mr. J. Spiller stated that the total fall amounted to 1·83 inch in the twenty-four hours, and we have to go back to August 1st, 1888, to find its equal. On that date exactly the same amount was registered. The wettest day of last year (August 20th) fell short of this by half an inch, and on comparison with previous returns it is found that the total rain during the months of August, 1889 and 1890 (1·86 and 1·91 respectively) exceeded by very little the amount that fell on this one day.

— BRIGHTON SHOW.—Through the indefatigable exertions of Mr. Mark Longhurst and the Committee, the "new" Society has gained an unassailable position in a very short time. It is supported equally by practical horticulturists and influential patrons of horticulture. It will give an idea of the scope of the Summer Show to mention that there were about 700 competitive entries, besides a large number not for competition, and that in one class there were as many as twenty-four entries, with fifteen to eighteen in several others. One of the most remarkable features of the Exhibition were the magnificent specimens staged by Mr. Offer, gardener to J. Warren, Esq., Handcross Park, Crawley, which easily won the first prize (£10) in the class for twelve stove and greenhouse plants. They were of huge dimensions and in robust health. Mr. Jupp of Eastbourne also showed well in the class for six, and was placed first. Groups were a splendid feature, that arranged by Mr. Peel, Southampton, in a space of 100 square feet, being extremely beautiful, and securing the premier position. Fruit was a large and good display. Mr. Reynolds, gardener to Messrs. de Rothschild, Gunnersbury Park, won with a collection, staging some excellent produce, and he showed prominently in other classes. We hope to be able to report as favourably of the financial result of the Exhibition as we are in a position to do of its general quality.

— KIDNEY BEANS AT CHISWICK.—The numerous varieties of Kidney Beans on trial were examined on Tuesday last. Among the white flowered varieties Carter's Jubilee was awarded three marks of merit, The Czar and Giant White two marks. Hill's Prize, Veitch's Giant, and Sutton's Prizewinner Scarlet Runners were granted three marks, and Giant Titan and Invincible two marks. Among the French Runners, Hungarian Butter, Mont d'Or, Flageolet Wax, and Sutton's Tender and True received three marks. They were tender and delicious when cooked, the last named being remarkable for its long pods and productiveness. Empress Frederick received two marks. In the Dutch case knife section Fillbasket was the only noteworthy variety, and was granted three marks of merit.

— PEAS AT READING.—Having heard of the exhaustive trials of Peas being made by Messrs. Sutton & Sons, and as early and late Peas are a speciality of mine I had a wish to see their trials of early and late varieties. On application I was cordially invited to inspect them. All types and forms were well represented at their trial grounds, varying in height from 6 inches to 6 feet, suitable alike to amateur suburban gardeners with whom sticks are not obtainable or desirable, and to landed proprietors with whom Pea sticks, long and plentiful, are to be had. In the latter case tall Peas are to be preferred. Taking a broad view of the minute and painstaking trials the advance in the dwarf section was truly remarkable, varieties being observable with large well filled pods of fine Marrowfat flavour. Medium height and tall varieties were all well represented, comprising the best in commerce grown alongside of the firm's seedlings and introductions. Very conspicuous were Perfection Marrow and Exhibition Marrow, in height about 3 feet 6 inches to 4 feet, having fine long dark green pods in great abundance.—R. M.

— APPLE STEALING AND ITS SEQUEL.—At the Guisborough Police Court on Tuesday week, John Morgan, Frank Thompson, Walter Jackson, Ernest Burt, Chas. W. Bougham, John Abbott, and Wm. Harris, all of North Skelton, were charged with stealing Apples the property of Jno. A. Lince, gardener, Saltburn, on the 10th ult. Mr. Richardson prosecuted. Bougham, Jackson, and Morgan were each ordered to pay 10s. each and the others 7s. 6d. each. John A. Lince was charged with unlawfully shooting at John Morgan. Mr. Richardson defended. Complainant stated that he, in company with the other defendants in the previous case, walked towards Lince's garden. Complainant got over the hedge, and was half way across the beck, when he heard someone talking. He turned, and had just got back over the hedge into the field, when he heard the report of a gun, and felt that he was shot in both legs and one arm. He looked round and saw defendant with a gun in his hand. Complainant admitted that he had gone to the garden with the intention of stealing Apples. Mr. Richardson submitted that defendant did not shoot with intent to do any harm, but simply with a view to frightening depredators away. Defendant was committed for trial at the Sessions.

— PICOTEES FROM MR. BEN SIMONITE.—Our old Sheffield friend writes:—"I have sent for your inspection a box of my seedling Yellow and Fancy Picotees. I think them fine border flowers; they are very vigorous growers. What is your opinion of them?" We think they are very fine indeed, the majority being large, well-formed flowers, with very broad smooth petals, the only fault of some being a tendency to pod-splitting, but others were good in this respect also. A brief note of each is added. Duchess of Portland is a splendid variety, having a stout stem, perfect calyx, and flowers of great size, the petals very broad, substantial, and evenly disposed; it is a yellow ground, edged and lightly feathered with mauve. Sybil, yellow ground flecked with red, a large flower with broad stout petals. Orion, yellow ground, flaked on the edges with crimson—a noble flower. Kate, yellow ground feathered with rosy lilac, very smooth, broad petal. Ophir, lemon ground, lightly flecked with red, good petals. Mrs. Field, cream ground, heavily edged with deep rose, very broad petals, evenly folded. Mrs. Simonite, yellow self. Frisel, white ground, heavily edged with deep rosy crimson. Sylph, lemon ground, lightly flaked with rosy red, broad, smooth petal—a flower of great beauty. Ganymede, yellow ground, with a few flecks of crimson. Modesty, canary ground, with medium rosy pink edge—a charming flower. Brilliant, white ground, heavily edged with rich rosy red, broad, very stout petals, evenly disposed—a bright and effective variety. Sylvia, bright yellow ground, edged and flaked with rosy crimson, broad, well-rounded petal; and Ellen, lemon ground, edged and flaked purplish rose, very broad petals and strong calyx. All things considered they are an excellent type of flower.

— THE PRODUCTION OF TEA, COFFEE, AND COCOA.—At a meeting of the London Chamber of Commerce on Monday, July 25th, Mr. J. Ferguson read a paper on "The Production and Consumption of Tea, Coffee, Cacao (Cocoa), Cinchona, Cocoa-nuts and Oil, and Cinnamon, with reference to Tropical Agriculture in Ceylon." He referred to the position of Ceylon, its forcing climate, its command of free cheap labour, and its immunity from the hurricanes which periodically devastated Mauritius, from the cyclones of the Bay of Bengal, and from the volcanic disturbances affecting Java and the Eastern Archipelago. The plantations of Ceylon afforded, he said, the best training in the world for young men in the cultivation and preparation

lands and which were already in danger of being over-produced, and he had arrived at the conclusion that Coffee, Cacao, and rubber-yielding trees were the products to plant, while Tea, Cinnamon, Cardamoms, Cinchona bark, Pepper, and even Palms (for their oil) did not offer encouragement to extended cultivation.—(*Nature.*)

BEGONIA MARIE LOUISE.

AMONGST the novelties exhibited at Chiswick, on the occasion of the Begonia Conference, was a very handsome Begonia of the Rex type, named Marie Louise. It was placed before the Floral Committee last



FIG. 28.—BEGONIA MARIE LOUISE.

of tropical products, and in the management of free coloured labour. The cultivation of Cane Sugar, although tried at considerable outlay on several plantations forty and fifty years ago, now proved a failure. More recently experiments by European planters with Tobacco had not been a success, notwithstanding that the natives grew a good deal of a coarse quality for their own use. Although cotton growing had not been successful, the island had proved a most congenial home for many useful Palms, more particularly the Coco-nut (spelt without the "a" to distinguish it and its products from Cocoa—the beans of the shrub *Theobroma cacao*) and Palmyra, as also the Areca and Kitul or Jaggery Palms. Within the past few years Ceylon had come to the front as one of the three great Tea-producing countries in the world, India and China being the other two, with Java at a respectable distance. Mr. Ferguson said one of the chief objects of his paper was to demonstrate which of the products of the island it was safe to recommend for extended cultivation in new

year by Messrs. J. Veitch & Sons; but as a desire was expressed to see whether it would retain its dwarf character another year it was held over and produced again on the present occasion, when the Committee, being fully satisfied of its dwarfness, awarded it a first-class certificate. Although very little is known of its parentage or whence it emanated, it is thought to be a hybrid, possibly of continental origin. It averages about 6 inches in height, and is remarkably handsome. The foliage is heart-shaped, bright glossy green, with a broad bronzy patch near the base, across which run veins of a silvery flesh colour. The surface of the leaf is covered with silvery blotches. The edge is of the same bronze hue as the patch referred to, and is thickly studded with silvery dots, as shown in fig. 28, which represents it. A point that should be mentioned in favour of the plant, apart from its dwarf growth, is the way it retains its colour, a feature that is exhibited by both old and young leaves.

NOTES ON WATERING.

WATER is so indispensable to the existence of plants that a clear understanding of the relation of water to plant life would, I think, be of service to inexperienced persons. It is an operation in daily practice at all seasons, and one which requires much judgment and care. The time when water is likely to be needed should, if possible, be ascertained in the morning, so as to avoid having to apply any more than is absolutely necessary during sunshine in the middle and hottest part of the day. Soft rain water is always the best for plants of every description, therefore provision should be made to collect as much as possible from the roofs of glass houses and other structures.

Water should never be applied to plants at a lower temperature than that in which the plants are growing, particularly to plants that are being subjected to severe forcing. Plants in pots should be examined every day, particularly those in small receptacles, as they get dry quicker and suffer sooner than those in larger pots; but while care must be taken not to let them get too dry, equally as much care must also be taken not to make them too wet by watering them when they do not require it, or the soil will become sour and the plant assume a sickly appearance. In watering plants a great mistake is often made by giving them a little every day, thereby keeping the surface soil wet, while that below becomes quite dry, and the roots being principally at the bottom of the soil the plant quickly begins to wither away through want of moisture. If a plant has become very dry, as is sometimes the case through being overlooked, the soil will be found to have contracted, leaving a crevice between it and the pot, so that when water is poured into the pot it very quickly runs out again; in this case it does the plant little good, for instead of penetrating the ball it goes between the pot and the soil, only wetting the soil nearest the top. To well moisten the ball it should be placed in a vessel containing tepid water as deep as the pot, and allowed to remain ten or fifteen minutes.

In summer, of course, plants will require more water than in winter, but they must always have it when they are getting dry at whatever time of the year it may be. In winter it is generally desirable to have the foliage of most plants dry at night; watering is therefore best done in the morning, not that it is always necessary to wet the foliage, but because of the waste having time to evaporate. A wet soil is totally unfit for plant-growing. A Hyacinth it is true will live one season in water, but all the matter which goes to make up the flower is prepared the year before, and after flowering the bulb is exhausted and almost worthless; therefore a good soil for plant-growing is not one which will hold water, but one from which water will rapidly pass away. If it were water simply which plants required we might with advantage cork up the hole in the bottom of the flower pots and prevent the water from escaping. Instead of this we try to hasten the passing of the water through as much as possible, by not only keeping the aperture as clear as possible, but by putting pieces of potsherds over it. How often to water will be according to how readily the water passes away; if, when water is poured into the pot, it disappears almost instantaneously, it would be safe to water the plants every day.

In the above notes on watering I have only spoken in somewhat general terms, as there are individual plants which require special treatment in regard to moisture; for instance, as a rule, softwooded plants and those of quick growth require more water than those of a slow-growing or hardwooded nature, therefore the amount of water and the frequency of its application are matters which can only be known from personal experience in dealing with the various classes of plants under cultivation, some requiring it in summer two or three times a day, while others would be ruined if they were similarly treated.—GEORGE PARRANT, *Ashby Lodge Gardens, Rugby.*

HORTICULTURAL SHOWS.

NEWCASTLE-ON-TYNE.—AUGUST 24TH, 25TH, AND 26TH.

ON the back of the schedule of the Durham, Northumberland, and Newcastle-on-Tyne Incorporated Botanical and Horticultural Society it is stated that it is the oldest in England, having commenced in 1824, and being now, therefore, sixty-eight years old. It would be interesting to know if any Society has ever buffeted storms and misfortunes in an equal degree to this one. Its history is unique as a record of disasters. It was conducted in a very small way prior to 1874, but after that energetic management of the most thoughtful and businesslike kind soon raised it to high rank and position in the horticultural world. A series of rainy seasons subsequently considerably militated against the progress of the Society, but last year a more serious catastrophe still was in store, for the whole of the marquees were blown down by a hurricane. The

disaster was serious, but the Committee and their energetic Secretary, Mr. Jas. J. Gillespie, were equal to the occasion. An appeal was made to the public, and a magnificent concert was arranged, with the result that the debt was paid off, and a substantial balance left to carry on the Show another year.

A good prize schedule was arranged this year, and with the favourable weather that prevailed the Society have scored another great success. In every respect the Exhibition was a grand one. The fruit was excellent. Table decorations were never seen better at Newcastle, and they were considered by many competent to form an opinion the best of the kind held in England. Roses were also a special feature, and the whole Exhibition was most satisfactory to the promoters. The Society offer £270, which is competed for in three sections: A, open to all; B, open to gentlemen's gardeners; and C, open to amateurs only.

PLANTS.—In section A, for eight stove and greenhouse plants in bloom, the President offered a cup value 11 guineas, which induced four competitors to come forward; the Society also offered 6 guineas, 4 guineas, and 2 guineas. Mr. Nicholas, gardener to the Earl of Zetland, Uplatham, was first with fresh well grown plants consisting of *Allamandas nobilis* and *grandiflora*, *Ericas æmula* and *ampullacea*, *Bougainvillea glabra*, *Cypripedium Lawrenceanum* with fifty-five blooms, and *Statice profusa*. Mr. Wylam, Shank House, Cramlington, Northumberland, was second, his *Stephanotis floribunda* and *Clerodendron Balfourianum* being very fine. Mr. John McIntyre, gardener to Mrs. G. Pease, Woodside, Darlington, was third with a fine *Eucharis amazonica* and *Anthurium Andreanum*. For eight foliage plants there was only one competitor, also for six Ferns. In both classes first prizes were given to Mr. J. McIntyre for specimens that the strongest competition secured would have had a hard struggle to defeat. In the foliage plants Mr. McIntyre exhibited well coloured *Croton angustifolium*, *Cycas revoluta*, *Areca Baueri*, *Phoenix rupicola*, and *Dicksonia antarctica*. The Ferns were of exceptional merit, comprising a fine plant of *Gleichenia Mendeli*, *Davallia Mooreana* over 7 feet through, *Adiantum farleyense*, and *Microlepia hirta cristata*. For four *Ericas* Mr. Nicholas was first with well grown plants of *Marnockiana*, *Aitoniana superba*, and *Ne Plus Ultra*. *Pentstemons*, *Liliums*, and tuberous-rooted *Begonias* were also well shown.

TABLE DECORATIONS.—Table plants are always an interesting collection at Newcastle; three lots were staged and all were meritorious. Mr. J. McIntyre was first with fine *Dracænas*, *Aralias*, *Pandanus Veitchi* and *Cocos Weddelliana*. *Epergnes* were both numerous and good, in fact, as already indicated, formed one of the main exhibits of the Show; perhaps it would be no exaggeration to say that they were the best of the kind exhibited this year. Mr. George Webster, florist, Sunderland, was first with an ornate and graceful arrangement, in which many flowers were brought out to the best advantage. In the top tier were *Francoa ramosa*, *Grasses* and *Orchids*; in the second, *Pancratiums*, *Lilium lancifolium roseum*, white *Lapagerias*, and *Cattleya Mossiæ*; at the base early *Chrysanthemums* were used effectively. The second prize *epergne*, exhibited by Mr. John Morris, Felling-on-Tyne, was also good. Baskets of cut flowers, which have only recently been exhibited at Newcastle, were very good. Mr. W. R. Armstrong, High Benwell, was first with a neat arrangement; Messrs. Perkins & Sons, Coventry second with a much larger basket, but very effective. Mr. Armstrong was also first for a bridal bouquet, followed by Messrs. Perkins. Hand bouquets were a choice collection, Messrs. Perkins here scoring against the local competitors. Ladies' sprays were also largely shown. Messrs. Perkins were again first with an arrangement that was simple but very effective, white *Roses*, *Jasminum grandiflorum*, *Caladium argyrites* and *Oncidium flexuosum* being all blended effectively. Hand bouquets were in great numbers, containing *Orchids* and many other choice flowers. Eighteen buttonholes were staged, Messrs. Perkins being first with a most graceful arrangement consisting of *Odontoglossum Alexandræ* and *Oncidium flexuosum*, with *Adiantum gracillimum* as a background.

CUT FLOWERS.—For twenty-four Dahlias Mr. N. Walker, Felling, was first with large flowers, and no coarseness in their texture. They included good blooms of James Carter, R. T. Rawlings, Mrs. Gladstone, Earl of Ravensworth, T. W. Girdlestone, J. Walker, George Dickson, Majestic, Queen of the Yellows, and Goldfinder. For twelve Dahlias, Fancies excluded, Mr. George Humphries, nurseryman, Chippenham, was first, Mr. N. Walker second, and Messrs. H. Clark & Son, Rodley, Leeds, third. Pompon and Cactus Dahlias were a very extensive display, and received much admiration from the many visitors attending the Exhibition. For Cactus Dahlias Mr. Geo. Humphries was first; the stand was superb, conspicuous being *Delicatissima*, nearly heliotropic in colour. Hollyhocks were represented by five lots. Mr. Humphries was also first here; much pleasure was expressed by the visitors that these flowers were again coming forward. For eighteen spikes of *Gladioli* Messrs. Harkness & Sons, Bedale, were first for large, fresh flowers. The best blooms were *Sceptre de Flore*, *Opal*, *Magnificent*, *Grand Rouge*, *Amalthée*, *Orphée*, *Baroness Burdett Coutts*, and *Meyerbeer*. Most of these averaged ten blooms each. *Roses* were an extraordinarily fine collection, and were never shown better before at Newcastle. Messrs. Harkness & Sons were first. The stand was excellent, and well worthy of premier honours, including fine blooms of A. K. Williams, *Maréchal Niel*, *Alfred Colomb*, Mrs. J. Laing, *Merveille de Lyon*, *Madame Hoste*, *Chas. Lefebvre*, *Marie Baumann*, and *Horace Vernet*. No less than seven stands were staged, and proved a most important feature in the Exhibition. Messrs. Mack & Sons, Catterick, were second with very good flowers. Herbaceous plants were a leading feature, five stands of eighteen kinds of herbaceous flowers being exhibited. Mr. J. G. Roe,

Museum Park, Barnard Castle, was first with an extra good stand; and Messrs. Harkness were second, also with a good collection. In the first collection was staged *L. candidum*, *Lythrum roseum superbum*, *Bocconia cordata*, *Veratrum nigrum*, *Veronica spicata*, *Helianthus japonicus*, *Chelone barbata*, *Gaillardia multiflora*, *Lilium chalcedonicum*, *Chrysanthemum Golden Queen*, and *Stenactis speciosa*.

Asters, Picotees, and Carnations were shown in goodly numbers, also Show and Fancy Pansies. For twelve bunches of stove and greenhouse flowers Mr. F. Nicholas was first, showing *Oncidium flexuosum*, *Amaryllis Holfordi*, *Lapageria alba*, *Dipladenia amabilis*, *Stephanotis floribunda*, *Cypripedium Harrisii*, *Clerodendron fallax*, *Eucharis amazonica*, and *Disa grandiflora*.

FRUIT.—For a collection of twelve dishes of fruit the Society offered £7 and the Royal Horticultural Society's silver Banksian medal. Mr. J. Hunter, gardener to the Earl of Durham, Lambton Castle, was first with a superior and faultless collection. Gros Maroc and Muscat of Alexandria Grapes were well finished and coloured. Royal George Peach, Baroness Rothschild Pine Apple, Brown Turkey Fig, White Magnum Bonum Plums, Chaumontel Pear, and Lord Napier Nectarines were also good. Mr. James Tullett, gardener to Lord Barnard, Raby Castle, was second with a very good collection, including Smooth Cayenne Pine, Muscat of Alexandria and Black Hamburgh Grapes, Dymond Peach, Pineapple Nectarines, and Williams' Bon Chrétien Pear. Mr. J. McIntyre was third, his Madresfield Court Grapes and Duchesse d'Angoulême Pears being good.

For eight dishes Mr. J. Hunter was also first. In this collection Gros Maroc and Muscat of Alexandria Grapes were exhibited with Best of All Melons, Prince of Wales Peach, and Worcester Pearmain Apples. He was followed by Mr. Tullett and Mr. McIntyre. For four dishes, Pines included, Mr. Tullett was deservedly first, his Black Hamburgh Grapes being good, also the Peaches, Nectarines, and Melon. Mr. Joseph Atkinson, gardener to Sir Edward Blackett, Matfen Hall, was second, his Black Hamburgh Grapes being very good indeed. For six bunches of Grapes, not less than three varieties, Mr. John Potter, gardener to W. P. Moore, Esq., Whitehall, Mealsgate, Carlisle, was first, including typical bunches of Muscat of Alexandria, Madresfield Court, and Black Alicante. Mr. Potter was also successful for two bunches of Black Hamburgh and for two bunches of Black Alicante Grapes, the latter being well finished. Mr. J. Hunter showed also in this class, but the Judges thought they were Madresfield Court, but Mr. Hunter has grown and exhibited them for twenty-five years; it is special culture they receive at Mr. Hunter's hands that makes them look so. For two bunches of black Grapes, any other sort, Mr. Joseph Atkinson was first. For white Muscats and Buckland Sweetwater he was again first. Mr. Potter was first for the heaviest bunch of Grapes with Trebbiano, weighing 10½ lbs. Eight lots of Melons were staged. Mr. L. Richardson, gardener to Miss Williamson, Whickham Lodge, was first with Holborn Favourite, a well netted, green flesh variety.

Peaches were represented by eight dishes. Mr. F. Nicholas was first with Prince of Wales and Earl's Favourite grown out of doors. Nectarines and Apricots were also exhibited, and good dishes shown. Pears, Apples, and Plums were shown by Mr. Hunter from his orchard, and were much admired for their size and earliness.

In division B, open to all, for six plants, Mr. J. Morris, Felling-on-Tyne, was first, including a good plant of *Ixora Williamsii*, *Stephanotis floribunda*, *Lapageria alba*, *Clerodendron Balfourianum*, *Erica Austiniana*. For foliage plants Mr. F. Nicholas was first, *Crotons angustifolius* and *Williamsii* being well coloured. *Neottopteris australasica* and *Dicksonia antarctica*, with the Palms *Chamærops Fortunei* and *Kentia Belmoreana*, concluded the lot. Mr. John Spoor and Mr. Brown won the special prizes for Dahlias and Hollyhocks. Table decorations were very good. Messrs. G. Webster, Misses Edmondson and Lawson were the successful prizetakers.

NURSERYMEN'S EXHIBITS.—These were very large and numerous at Newcastle, and added considerably to the attractiveness of the Exhibition. Mr. W. J. Watson, Fenham, Newcastle, showed a good mixed display of plants. Messrs. Wm. Fell & Co., Wentworth Nurseries, Hexham, exhibited a grand stand of Coniferae, which was placed at the entrance of the Exhibition, and received considerable attention from the public. At the opposite end was the display of Messrs. Little & Ballantyne, Carlisle. This was a fine collection of stove and greenhouse plants, Crotons being a special feature. All the above firms received a special diploma from the Society on the recommendation of the Judges. Messrs. Hillar, Darlington, exhibited a miscellaneous stand, with *Bilbergia roseata* in bloom. Messrs. Forbes & Son, Hawick, exhibited florists' flowers, including a new *Viola* named Mrs. Nesbit, bronze yellow in colour. Messrs. Laing & Mather, nurserymen, Kelso, exhibited Carnations Mrs. Reynolds Hole in baskets. The Malmaison section was very fine. Messrs. W. F. Gunn, 3, Stockton Road, Sunderland, exhibited garden requisites. Messrs. Harkness & Son had Roses in grand condition, Mrs. J. Laing being especially fine. Messrs. Jos. Robson and Son, Hexham, had a stand of plants and cut flowers; and Messrs. Stuart and Mein, Kelso, Carnation and Picotees. Miss Armstrong had hand bouquets; Mr. M. Cuthbertson, Rothesay, had a stand of plants; and Mr. Jas. T. Brownlow, 3, Bellevue Terrace, Gateshead, had terra cotta stands and brackets for drawing-rooms.

At the luncheon Mr. J. Baxter Ellis presided, supported by the Mayor, Sheriff, Under-Sheriff, and several Councillors of the city of Newcastle. Especial congratulations were offered to the Secretary (Mr. Gillespie) for his energy and interest in the Society's progress, especially as he is about to enter the Council of Newcastle unopposed.

HORSHAM.—AUGUST 25TH.

THE twenty-first Show of this Society was held in Springfield Meadow, London Road, by kind permission of A. Agate, Esq., on Wednesday. The weather during the early part of the afternoon was rather threatening, and between two and three o'clock several sharp thunder showers came down, but it afterwards cleared up, and in the evening the Show was well patronised. The Show on the whole was very good, though the entries, numbering 1612, were considerably short of last year. The division that will most interest the readers of this Journal is that "open to all England and all classes." There were only two entries for a group of plants, and little difficulty was found in awarding the first prize to Mr. E. Lawrance, gardener to T. Oliver, Esq., Tonbridge; J. Peterson, gardener to Colonel Clifton Brown, Holmsbush, being the other exhibitor. Mr. T. Sparkes, gardener to E. Allcard, Esq., Wimblehurst, was the only exhibitor of four foliage plants. He was also successful in the class for four Coleus, four Caladiums, a specimen foliage plant, and four Begonias, the latter being very good, and like all his exhibits proved the grower to be a man of no mean skill. Mr. W. Lacy, gardener to Mrs. Mortimer, Wigmore Park, was an easy first with four exotic Ferns, also for four stove and greenhouse plants, and he might well be proud of the splendid *Eucharis* with close upon thirty spikes, with which he carried off the prize for a specimen flowering plant.

Of cut flowers there was an excellent display and good competition in the classes for Roses, Dahlias, and Asters. The veteran amateur, Mr. A. Slaughter, Steyning, and Mr. H. Harris, gardener to Mrs. Eversfield, Denne, were well to the fore with Roses, the former winning in the classes for twelve and twenty-four, while the latter had the best twelve, three blooms of each. Mr. J. Morgan took the lead in both classes for Asters; Mr. J. Pullen, gardener to H. H. Walford, St. Leonards Forest, in that for Gladioli and Decorative Dahlias, Mr. T. Sparkes for Show Dahlias, and Mr. W. Sparkes, gardener to F. W. Butler, Esq., Horsham, for singles.

Fruit was fairly well represented, the black Grape, Peach, and Apple classes being well filled. There were four entries for eight dishes. Mr. G. Duncan, gardener to T. C. Lucas, Esq., Warnham Court; Mr. G. Goldsmith, gardener to Sir E. Loder, Leonardslee; and Mr. T. O'sman, Chertsey, being placed in the order of their names. For black Grapes Mr. J. Pullen was placed first with fairly heavy well finished Hamburgs, Mr. T. Glen, gardener to Mrs. Montefiore, Worth Park, following with very finely finished Gros Maroc. In the class for white Grapes Mr. J. Colman, gardener to — Henderson, Esq., Sedgwick Park, was first with very fine bunches of Muscats; and it must suffice to say that the following were successful in the other classes:—Peaches, Mr. J. Pullen; Nectarines, Mr. G. Goldsmith; Plums, Mr. W. Stovell; dessert Plums, Mr. T. Sparkes; Cherries, Mr. W. Lacy; dessert Apples, Mr. G. Goldsmith; cooking Apples, Mr. G. Duncan; Melon, Mr. T. M. Le Piley.

Vegetables were of high quality. Mr. T. Sparkes was again placed first for a collection of eight sorts, and also for six varieties of salads, closely followed in both cases by Mr. G. Duncan. The single dishes of vegetables were also well contested, but lack of space forbids further details of a very creditable Show.

There is one thing that is continually a source of difficulty with judges and exhibitors alike in the Potato classes—namely, the showing of those beautiful flat-round varieties in the kidney classes. It would be well if there was a class provided for them; they might be called "Pebbles" for distinction. Sir F. A. Montefiore, Bart., is the esteemed President of the Society, and Mr. R. Gilburd, Secretary.

SANDY (BEDS).—AUGUST 26TH.

THE twenty-fourth annual Exhibition of this now widely patronised Society was held on Friday last, the 26th ult. in the park of Sandy Place, and the Committee are to be congratulated on having been able, through the kindness of Mrs. Foster, to revert to the old and unsurpassable site for such an exhibition. A considerable improvement in the arrangements was inaugurated, as the horticultural part of the entertainment was on this occasion more fully detached from the dog, poultry and bird department, which also forms an important and attractive feature at Sandy. Perhaps the one great drawback is the utter impossibility of getting a good general survey of the whole of this interesting and instructive natural history collection in the too limited period of six hours, and bearing in mind that shows of this magnitude and comprehensiveness are hardly meant now as mere displays, but are actually sought out for purposes of study and information, as well as for business purposes, by the various fanciers as well as horticulturists, it would be a public boon could the Committee see its way to keeping the show open two days instead of one, and especially as the second day would probably prove an insurance against a possible wet day as well as remunerative, and it seems a pity that so large a collection should at such great trouble and expense have to be distributed in a few hours. A large gathering was the result on Friday, the day being beautifully fine, and visitors came from all the surrounding counties. Sandy is very well placed for such an exhibition, and no less than £273 was realised at the gates. In most departments, especially in the plant tent, there was a material advance, and no finer display has been seen there.

In the open class for ten stove and greenhouse plants in flower, Mr. J. Cypher, Cheltenham, was easily first with very fine specimens of *Allamanda grandiflora*, *Anthurium Andreanum*, *Clerodendron Balfourianum*, *Bougainvillea glabra*, *Statice profusa*, and *Ericas Eweriana*, *Marnockiana*, *obolata purpurea*, and *atomaria*. For second, Mr. Finch, gardener to H. Marriott, Esq., Coventry, had excellent but somewhat

smaller plants, including good specimens of *Ixoras Fraseri* and *Duffi*, and *Erica Marnockiana*. Mr. G. Redman, gardener to J. H. Goodgames, Esq., Eynesbury, St. Neots, showed well as third. Mr. Redman was first with a tastefully arranged group, and Mr. G. Claydon, gardener to Mrs. Astell, Woodbury Hall, second. For six foliage plants Mr. Claydon was first, including *Crotons* *Queen Victoria*, *Andreanum* and *undulatum*, and *Asparagus tenuissimus*. Mr. Redman was here second, and Mr. W. J. Empson, gardener to Mrs. Wingfield, Ampthill House, third. For six plants in flower Mr. Claydon was again first. For twelve Zonal *Pelargoniums* in the open class Mr. Redman was first with a very even and well-flowered lot. Mr. C. T. Leeds-Smith, Sandy, was first for hardy Ferns and a specimen flowering plant, and Mr. Claydon for stove and greenhouse Ferns. For hybrid *Begonias*, Mr. W. Green, Sandy, was first, and Mr. E. Leeds-Smith, second.

In the open class for forty-eight Roses, not less than twenty-four distinct varieties, there was a strong competition and a good display, Messrs. Harkness & Co., Bedale, leading with very fresh and clean blooms of more than the average size for the season, staging several fine blooms of Mrs. Jno. Laing, evidencing the value of this variety as an autumnal bloomer, *Gustave Piganeau*, *Suzanne Marie Rodocanachi*, *Charles Lefebvre*, *Beauty of Waltham*, *Horace Vernet*, Dr. Andry, A. K. Williams, Sir Rowland Hill, Alfred Colomb, Duchess of Edinburgh, and A. Rigotard. Messrs. G. & W. H. Burch, Peterborough, were well second, having fine flowers of *Comtesse de Nadaillac*, *Etoile de Lyon*, *Horace Vernet*, *Victor Hugo*, *Xavier Olibo*, and *Reynolds Hole*. Mr. H. Frettingham, Beeston, Notts, was third. For twenty-four cut Roses in the amateurs' division, Mr. J. Parker, Hitchin, was first; Mr. A. Burgess, Wimpole, Reyston, second; and M. W. Bourne, Cambridge, third. For six Roses Mr. G. Moules, Hitchin, was first, and Mr. C. Bright, Cambridge, third.

For twenty-four Show Dahlias, distinct, open, Mr. G. Humphreys, King's Langton, Chippenham, was first. For twelve ditto, amateurs, Mr. R. Burgin, Eynesbury, won. Cactus Dahlias were an attractive and interesting display. Messrs. Burrell & Co., Cambridge, showed a well staged and varied collection of twelve bunches, containing *Black Prince*, *Amphion*, *Marchioness of Bute*, *Empress of India*, H. Cannell, Mrs. G. Reed, Professor Baldwin, Mrs. Hawkins, Juarez, and A. W. Tait, and were awarded first prize. Messrs. Paul & Son, Old Nurseries, Cheshunt, were second, having *Charming Bride*, *Cochineal*, Mrs. Jekyll, *Prince Alexander*, and *Duke of Clarence*, all pretty and distinct. For twelve bunches of Pompon Dahlias Mr. G. Humphreys was first, Messrs. Burrell & Co. second, and Messrs. Paul & Son third. For twelve single Dahlias Mr. E. T. Leeds-Smith was the leader. Cut herbaceous and bulbous flowers, strictly hardy and distinct varieties, formed a very attractive feature, Messrs. Burrell & Co. leading with large and well-displayed bunches, including *Rudbeckia purpurea*, *Scabiosa caucasica*, *Gladiolus Marie Lemoine*, G. Baroness Burdett Coutts, *Helianthus multiflorus plenus*, *Tigridia grandiflora alba*, and *Montbretia crocosmæflora*. Messrs. Laxton Bros., Bedford, were a close second, having an effective and well-arranged collection, their most striking kinds being *Lilium Batemani*, *Scabiosa caucasica*, *Phlox coccineum*, *Helianthus Soleil d'Or* and *Multiflorus major*, *Coreopsis lanceolata*, and *Gaillardia grandiflora*. Messrs. Paul & Son were third, having *Montbretia Pottsi*, *Statice latifolia*, *Lilium tigrinum splendens*, and *Gladiolus purpureo auratus*.

For twenty-four *Gladioli*, not less than eighteen varieties, Messrs. Burrell & Co. were to the front with several fine seedlings of their own, also Baroness Burdett Coutts, a bold and bright flower, rosy carmine; *Primatrice*, *Enchanteresse*, A. Brongniart, *Formosa*, *Pasteur*, *Cervantes*, *Sorcerer*, *Pyramid*, &c. Mr. E. B. Lindsell, Beeston, Hitchin, the successful amateur Rose grower, was a very respectable second with clean and well-developed spikes of the leading varieties; Mr. Bourne, Cambridge, being third. Asters were good for the season, the principal prizes falling to Mr. Burgess, Mr. Bourne leading for very fine African *Marigolds* and *Zinnias*, and for a collection of twelve cut herbaceous flowers, and Dr. Swain, Arlesey, for *Pentstemons*.

Fruit was barely an average show, the season being somewhat untoward for the hardy sorts. Especially was this noticeable as regards Pears. The competition, however, in the classes for Grapes and collections was well sustained. For eight distinct kinds Mr. L. James, gardener to the Rev. S. G. Cotton-Brown, Walkern Hall, Stevenage, carried off the first prize, and with it the silver medal, having good examples of *Black Hamburgh* and *Foster's Seedling Grapes* (the latter not quite in perfect finish), *Golden Queen Melon*, very fine; *Violette Hâtive Peaches*, *Humboldt Nectarine*, *Moorpark Apricots*, *Jargonelle Pears*, and *Duchess of Oldenburg Apples*. Mr. G. Allis, gardener to Major Shuttleworth, Old Warden Park, Beds, was second, only a few points behind, with very fine Grapes, *Alicantes* and *Foster's*, both well finished; *Melon*, *Figs*, *Peaches*, *Apricots*, *Pears*, and *Cherries*. Mr. J. Empson secured third place, and Mr. R. Carter, gardener to Capt. Duncombe, Waresley Park, fourth. For the collection of six distinct kinds Mr. A. Burgess, gardener to the Earl of Hardwick, Wimpole Hall, Cambs, was first, Mr. Redman second, and Mr. R. Brown, Somersham, Hunts, third. For two bunches of *Black Hamburgh Grapes* Mr. W. H. Murfin, Great Staughton, Hunts, and Mr. C. Moore, St. Neots, were respectively first and second. For other black Grapes, two bunches, Mr. Empson was first with very fine *Muscat Hamburgh*, and Mr. Allis second with excellent *Alicantes*. For two bunches of white *Muscats* Mr. Empson was again first and Mr. C. Forbes, Cambridge, second. For two bunches of other white Grapes Mr. Empson was first with large bunches of *Foster's Seedling*, and Mr. Allis second with smaller but

very well finished bunches of the same variety. Mr. J. Myers, gardener to the Earl of Sandwich, Hinchinbrook House, was first for *Peaches*, Mr. Allis for *Nectarines*, Mr. R. Carter for a green-fleshed *Melon*, and Mr. James for scarlet-fleshed *Lord Beaconsfield*.

Vegetables were a large and satisfactory display, the Potatoes and Peas being excellent. Mr. J. Simkins of Shillington, Beds, showed finely in several of these classes, his dish of twelve white kidneys (*Sutton's Satisfaction*) being perfect. Mr. Simkins was also first in the classes for twelve white rounds with *Windsor Castle*, for twelve coloured rounds with *The Dean*, for twelve coloured kidneys with *Prizetaker*, and also for a collection of six varieties, consisting of *Sutton's Seedling*, *Chancellor*, *Satisfaction*, *Reading Russet*, and *Pink Perfection*. Mr. Simkins likewise took first prize for twenty-four pods of *Perfection Peas*, and Mr. Allis for *Broad Beans*. The vegetables in collections of twelve varieties were well contested, Mr. F. Faint of Hertford leading with excellent *Satisfaction* and *Prizetaker Potatoes*, also *Ailsa Craig Onions*, *Fillbasket Pea*, *Carrots*, *Turnips*, *Beet*, *French Beans*, *Perfection Tomatoes*, *Celery*, and *Cucumbers*. Mr. Empson was a good second. For six varieties of vegetables Mr. R. Carter was first, and Mr. W. Bourne second. Very good *Globe Onions* from Mr. Myers were awarded first, but the *White Spanish* were not nearly so good as usual, and this was also evident in the market gardeners' tent where roots and vegetables, although good, showed the effects of the cold checks of last spring.

EARL'S COURT.—AUGUST 26TH AND 27TH.

THE Fruit Show in connection with the International Exhibition was looked forward to with considerable interest by persons interested in the subject of fruit culture under glass or in the open air. Excellent prizes were offered in the schedule for collections of fruit, also good ones for Grapes, Pine Apples, Figs, Peaches, and Nectarines, duly proportioned amounts being provided for Apples, Pears, and Plums. Tomatoes were also included in the schedule, but were not admissible in the collections of fruit. The response made by exhibitors was gratifying, and the Show was worthy of the efforts made to produce it. Twenty collections, comprising 220 dishes of fruit, were staged, the competition being very close between several of the exhibitors, while in some of the Grape classes there was a keen struggle for the coveted honours. All other kinds of fruit were well represented, and the splendid Vines in pots from Berkhamstead, fruit trees from Sawbridgeworth, Waltham Cross, and Crawley, with large market collections of fruit, contributed to the general display. A brilliant group of *Begonias* from Forest Hill, with tall Palms from Messrs. E. D. Shuttleworth & Co., and other miscellaneous exhibits referred to at the end of this report, added to the attractiveness of the two Exhibition buildings. The exhibits were well arranged by Mr. R. Dean and his assistants, and the Judges commenced their duties very soon after the appointed time. In referring to the classes it will be convenient to follow the order of the schedule.

COLLECTIONS.—Class 1, "Collection of fruit, not less than twenty dishes. In this collection four varieties of Grapes (two white, two black—two bunches of each variety), two Pines, two Melons, two dishes of Peaches, two of Nectarines, two of Plums are required. Remainder to be distinct." The terms are quoted for the purpose of making a subsequent reference. As above indicated, three collections were placed in competition. Mr. J. McIndoe, gardener to Sir J. W. Pease, Bart., Hutton Hall, was the premier exhibitor, winning the leading prize, £12, with a magnificent collection of fruit beautifully staged, certainly one of the best that has been seen in any Show. It consisted of handsome *Gros Maroc* and very good *Black Hamburgh*, with clear and fine *Golden Champion* and *Duke of Buccleuch Grapes*, fairly good *Charlotte Rothschild* and *Queen Pines*, a noble pair of Melons—*Exquisite* and *Best of All*, excellent *Golden Eagle* and *Violette Hâtive Peaches*, also *Humboldt* and *Stanwick Elruge Nectarines*, with very fine dishes of *Kirke's* and *Magnum Bonum Plums*. The remaining dishes consisted of *Williams' Bon Chrétien* and *Souvenir du Congrès Pears* (fine), *Brown Turkey* and *Negro Largo Figs* (good), *Duchess of Gloucester* and *Duchess of Oldenburg Apples*, *Bigarreau Napoleon* and *Late Duke Cherries*, *Exquisite Oranges*, *Imperial Lemons*, very fine *Apricots*, a splendid dish of *Noble Strawberries*, *Whinham's Industry Gooseberries*, fine *Red and White Currants*, and a good dish of *Passiflora edulis*, altogether thirty dishes, and every one fit for the table of a prince. As will be seen by the conditions, the collection was not limited to twenty dishes, and only in one respect was the specification faulty. After enumerating the "kinds" of fruit that must be shown, the remaining dishes were to be "distinct," but whether distinct "kinds" or "varieties" was not stated. The addition of one of those words would have made all clear. As it was, the other exhibitors not unnaturally thought that as "kinds" were specified in the first clause of the class the remainder were to be distinct kinds also; and in all likelihood, if they had felt free to make up with varieties, their collections, good as they were, would have been stronger. We understand that Mr. McIndoe had a doubt on the point, but the canny man wrote to the authorities and received their sanction to show duplicates (distinct varieties) of some of the kinds of fruit, and so fortified himself against a possible protest. He won well on the merits of the fruit and its arrangement. Mr. J. H. Goodacre, Elvaston Castle Gardens, was second with a good all-round collection, and Mr. H. W. Ward, Longford Castle Gardens, a very close third. The former of these two exhibitors had as his best dishes capital *Muscat* and *Black Hamburgh Grapes*, *Pines*, *Peaches*, *Nectarines*, and *Cherries*; and the latter fine *Gros Maroc* and good *Madresfield Court Grapes*, handsome *Peaches* and *Nectarines*, and good *Pines*.

Class 2: "Collection of twelve dishes of fruit. Black and white

Grapes, two bunches of each, and two Melons required; one dish only of any other kind." This is precise. Six collections were staged, Mr. R. Parker, Impney Gardens, winning the first prize, £8, with excellent, well-finished, and admirably staged fruit—namely, fine Muscats and good Alicante Grapes, one of the best Pines in the Show (Smooth Cayenne), two large Melons, Best of All and an unnamed seedling, Princess of Wales Peaches, Elruge Nectarines, Kirke's Plums, Morello Cherries, Large Early Apricots, Worcester Pearmain Apples, and Jargonelle Pears, all of excellent quality. Mr. G. Reynolds, Gunnersbury Park Gardens, was a remarkably good second, his best dishes consisting of Gros Maroc and Alicante Grapes, Melons, Pine and Victoria Nectarines, all very good; and a splendid dish of Clapp's Favourite Pear. Mr. T. Coomber, The Hendre Gardens, Monmouth, was third, his best dishes being splendid Gros Maroc and good Muscat Grapes, good Melons, Kirke's Plums and Figs, with a large crowned Pine. Mr. Goodacre was a close third with a capital, even, all-round collection.

Class 3: "Collection of fruit to consist of eight distinct dishes (white and black Grapes to be considered distinct), Pines excluded." Distinct kinds are implied, but not stated here, and if kinds were meant the following terms would have been much more definite—"Collection of eight dishes of fruit, distinct kinds," &c. There were eleven competitors in this class, Mr. J. McIndoe being well in advance with good and well finished examples of Duke of Buccleuch and Black Hamburg Grapes, Golden Eagle Peaches, Humboldt Nectarines, Early Transparent Gage Plums, Brown Turkey Figs, Lady Sudeley Apples, and a Melon. Mr. J. Dumble, gardener to Sir C. Phillips, Bart., Haverfordwest, was second with Peaches, Nectarines, Figs, Plums, Pears, and a Melon, in addition to good Muscat and Black Hamburg Grapes. Mr. J. Dawes, gardener to M. Biddulph, Esq., Ledbury Park, was third, staging very fine Gros Maroc Grapes, Barrington Peaches, Humboldt Nectarines, and Roman Apricots. Mr. A. Ocock, gardener to Mrs. McIntosh, Havering Park, Romford, was fourth, his best dishes being Figs and Peaches. The exhibits in the above three classes made a good show in themselves.

GRAPES.—Of these the display was extensive, and many splendid bunches were staged, though several were not well finished. Four collections of ten varieties, two bunches of each, were placed in competition, the first prize of £8 being won by Mr. McIndoe with a heavy exhibit. First to be named was a seedling with large, well-shouldered bunches of the character of Gros Guillaume, and berries as large and as black as Gros Colman; parentage Gros Guillaume and Duke of Buccleuch. It is desirable that the quality and keeping properties of this fine-looking Grape be tested and made known. The remaining varieties in the collection were Gros Colman and Duke of Buccleuch, medium bunches, large clear berries; Alicante, well finished; Gros Guillaume, heavy and good; Trebbiano, large, not finished; Black Hamburg, good bunches, rather small berries; Gros Maroc and Golden Champion, very fine; and good examples of Lady Downe's. Mr. G. Reynolds was an excellent second with good, medium-sized, even bunches and fine, well-finished berries, the varieties best represented being Alicante, Gros Maroc, Mrs. Pearson, and Madresfield Court. Mr. Goodacre was third, and Mr. Ward fourth.

Six collections of five varieties, two bunches of each, were staged, the contest for supremacy resting with Mr. W. Allan, Gunton Park, and Mr. W. Elphinstone, Shipley Hall. The former won with Alnwick Seedling, Gros Maroc, and Madresfield Court, very fine; and good examples of Black Hamburg and Buckland Sweetwater. Mr. Elphinstone's bunches were generally heavier, Muscats, Gros Maroc, and Black Hamburgs being exceptionally good. A very close second, Mr. J. Bury, gardener to C. Bayer, Esq., Forest Hill, was third, his Madresfield Court being particularly clean and good. Mr. T. Osman, gardener to L. L. Baker, Esq., Chertsey, was fourth with heavier bunches but not so well finished.

Fourteen competitors staged three bunches each in the Black Hamburg class, but several of them had lost colour if they ever possessed it. Mr. J. Gibson, Draycot Gardens, Chippenham, was first with good bunches, though a trifle loose, and well coloured berries. Mr. G. Reynolds was a very close second with firmer bunches and good berries. Mr. J. McNaughten, gardener to Lord Tankerville, Kingston-on-Thames, was third with much larger and fairly coloured examples.

With three bunches of Muscat of Alexandria Mr. G. Reynolds won the premier position against nine other competitors with beautiful bunches of fine and well-finished berries; Mr. J. Dumble second with much larger specimens, the berries smaller yet good; and Mr. Elphinstone a remarkably close third, with really good examples not quite finished, but very nearly so. This was the best class of Muscats of the year; it was a great honour to win a place in it, and no disgrace to lose. In violent contrast was the class for Gros Colman, in which there was only one exhibitor (Mr. McIndoe), his bunches meriting the first prize that was awarded.

Mr. J. Gibson was first with three bunches of Madresfield Court, admirable in size, shape, berry, and finish. Mr. G. Elliott, gardener to P. Graham, Esq., West Moulsey, was second with large bunches, not improved by a jutting shoulder on each. Mr. Berry was third with medium-sized bunches and well-finished berries. Seven competitors, and a good class.

The Black Alicante class was also good, six exhibitors staging well. Mr. S. T. Wright, gardener to C. Lec Campbell, Esq., Glewston Court, Ross, outdistanced all rivals with full heavy bunches and fine berries. Mr. J. Hollingworth, gardener to C. M. Campbell, Esq., Woodseat, Uttoxeter, was second with good bunches; and Messrs. T. Rivers & Son third with medium bunches but better finished berries.

In the class for three bunches of any white Grape except Muscat of Alexandria there was an imposing display by nine exhibitors. Mr. Peter E. Kay, Finchley, was placed first with long full bunches and good berries of Canon Hall Muscat. Mr. Elphinstone was a close second with still finer berries, and large but less compact bunches. Mr. J. Vert, The Gardens, Audley End, Saffron Walden, third with good examples of Trebbiano.

With three superb bunches of Gros Maroc Mr. G. Reynolds won the first prize in the class for any other black Grape than those above specified. Mr. T. Coomber was second, and Mr. W. Iggulden, Marston Gardens, third, with good examples of the same variety. This was a very fine class of fifteen competitors.

Prizes were offered for baskets containing 12 lbs. of Grapes, packed for transit by rail, and delivered at a distance of not less than twelve miles; also for boxes containing 10 lbs. of Grapes, packed for transit by rail or parcels post, delivered at a distance of not less than ten miles. Several baskets were disqualified through not being in strict conformity with the terms of the schedule, which were not, however, so explicit as they might have been. Mr. J. Hudson, Gunnersbury House Gardens, Acton, was first in the basket class, Mr. Sutton, gardener to Earl Stanhope, Sevenoaks, second, and Messrs. T. Rivers & Son third. The two last-named exhibitors had their bunches tied round the sides of cross handled baskets. Mr. Hudson's were not tied, but kept immovable by drawing the tissue paper lining from the sides of the basket and packing the space behind the paper with moss. The only well packed box of Grapes was sent by Mr. J. Turton, gardener to F. Hargreaves, Esq., Reading, who was awarded the first prize.

FIGS.—These were fairly good. Mr. J. Evans, Melchet Court, Romsey, was first for one dish, showing fine samples of Brunswick. Mr. H. W. Ward was second, the third prize going to Mr. J. Batten, gardener to J. A. Venables, Esq., Wimbledon Park. There were twelve competitors. Mr. J. Wallis, gardener to Ralph Sneyd, Esq., was the only competitor with three dishes, and secured the first prize. The varieties shown were Osborne's Prolific, White Ischia, and Brown Turkey.

PEACHES AND NECTARINES.—Mr. R. Potter, gardener to Sir M. W. Callet, Bart., Sevenoaks, had the best three dishes of Peaches, showing well grown samples of Grosse Mignonne, Dr. Hogg, and Crimson Galande. Mr. W. Carr, Croydon, was a close second, and Mr. H. W. Ward third. Mr. J. Austen, Stourport, had the best single dish of Peaches, showing fine fruits of Hale's Early. Mr. R. Potter was second with a fine dish of Crimson Galande; Mr. G. Helman, gardener to Lord George Lewis, being third. For two dishes of Peaches Mr. J. Dawes, gardener to M. Biddulph, Esq., was first with A Bec and Violette Hâtive; Mr. Haines, Highworth, second, and Mr. Miller third. Nectarines were fine and well coloured. For three dishes, distinct varieties, Mr. R. Potter was first with Spenser, Rivers' Orange, and Elruge. Mr. W. Carr, Croydon, was second; the other principal exhibitor being Mr. H. W. Ward, but no prize card was on the exhibit. For two dishes of Nectarines Mr. Dawes secured first honours with well coloured examples of Lord Napier and Humboldt. Mr. J. Miller, Ruxley Lodge, was second. Mr. Dawes was also first for one dish, showing Lord Napier; Mr. Turton second, and Mr. Mundell third.

PLUMS.—For three dishes of red Plums Mr. McIndoe was first with Pond's Seedling, Victoria (Denyer's), and Sultan. Messrs. T. F. Rivers and Son were second, the third award going to Mr. A. W. Porteous. Mr. W. Lane was first for three dishes of purple Plums, showing Black Diamond, Prince Engelbert, and Kirke's. Mr. Iggulden was second, and Mr. McIndoe third. Mr. Iggulden was first for three dishes of green or yellow varieties, showing Golden Drop, Early Transparent Gage, and Washington. Mr. McIndoe was placed second, and Mr. H. W. Ward third. There were ten competitors in this class. For one dish of dessert Plums Mr. J. Vert, gardener to Lord Braybrooke, Saffron Walden, was first with Jefferson. Mr. Hudson, Gunnersbury, was second with Kirke's, and Mr. G. Reynolds was third. For one dish of culinary Plums Mr. H. W. Ward was placed first for fine examples of Diamond, Mr. T. Turton second, and Mr. McIndoe third.

PINE APPLES.—These were exceedingly good. Mr. C. Slade, gardener to the Duke of Newcastle, Worksop, was first for three fruits, showing Smooth Cayenne well grown. Mr. Slade also exhibited a "not for competition" collection of Pines, and was awarded a silver-gilt medal. Mr. T. Coomber was second, and Mr. J. Toy, Pinner, third. There were five competitors. Mr. A. Methven, Wimbledon Park, was first for a single Pine, showing a well-grown Smooth Cayenne.

APPLES AND PEARS.—In the class for six dishes of cooking Apples, distinct, the competition was very keen. There were ten competitors. Mr. Thos. Turton, gardener to J. Hargreaves, Esq., Reading, was first with nine very fine dishes of Lord Suffield, Waltham Abbey Seedling, Warner's King, Peasgood's Nonesuch, The Queen, and Ecklinville Seedling. Mr. McKenzic, gardener to J. Cornwallis West, Esq., Maidstone, was second, and Mr. G. Reynolds, Acton, third. With three dishes there were twelve competitors, the first prize being awarded to Mr. Will Tayler, Hampton, for Warner's King, Lord Suffield, and The Queen. Mr. A. W. Porteous, Chiswick, was second, and Mr. J. Thompson, Homerton, third. There were twenty entries in the class for a single dish of Apples, and the competition was very keen. Mr. T. Turton secured first honours with a remarkably fine dish of Peasgood's Nonesuch. Mr. McKenzic was second, and Mr. Taylor third. For three dishes of dessert Apples, Mr. G. Goldsmith, Horsham, was first, showing Lady Sudeley, Beauty of Bath, and Red Astrachan. Mr. Reynolds was second, and Mr. T. Turton third. There were seventeen competitors. For one dish of dessert Apples there were no less than twenty-four

entries, the first prize falling to Mr. T. A. Hester, Plumstead Common, for a dish of well-coloured Red Astrachan. Mr. C. Sutton, gardener to Earl Stanhope, Sevenoaks, was second, and Mr. A. Wyatt third.

For three dishes of cooking Apples, grown under glass, Mr. T. Turton was first, Mr. McIndoe second, and Mr. J. Nicholson, gardener to J. W. Mellis, Esq., Chingford, third. For one dish of cooking Apples Messrs. T. Rivers & Son were first with Peasgood's Noncsuch, Mr. Turton second, and Mr. Nicholson third. Mr. J. McIndoe secured first prize for three dishes of dessert Apples, showing Worcester Pearmain, Jefferson's, and Gravenstein. Mr. Turton was second, and Mr. S. T. Wright, Glewston Court, third. For one dish of dessert Apples Messrs. T. Rivers and Son were first, showing very fine samples of Cox's Orange Pippin. Mr. McIndoe was second, and Mr. C. Sutton third.

For one dish of Pears, grown in the open air, Mr. R. Parker was first; Mr. J. C. Mundell, gardener to Lord Ebury, Rickmansworth, second, and Mr. G. Helman third. For three dishes Mr. R. Potter was first with Clapp's Favourite, Williams' Bon Chrétien, and Souvenir du Congrès. Mr. Helman was second, these being the only competitors. Messrs. T. Rivers & Son were first with three dishes of Pears grown under glass, showing Clapp's Favourite, Souvenir du Congrès, and Williams' Bon Chrétien; Mr. Nicholson second, and Mr. McIndoe third. Messrs. Rivers & Son were also first for one dish, showing very fine Pitmaston Duchess. Mr. G. Reynolds was second, and Mr. McIndoe third.

TOMATOES.—These were exceedingly good, and the competition keen. For three dishes, distinct, Mr. J. Roberts, Shepperton, was first with Webb's Jubilee, The Cardinal, and Early Ruby; Mr. J. Bury, Forest Hill, second; and Mr. Thompson, Hounslow, third. Mr. E. Ryder, Orpington, had the best six dishes, the varieties being Golden Sunrise, Ham Green, Stamfordian, Perfection, Ignotum, and Optimus. Mr. J. Hill, New Malden, was second, these being the only competitors. There were eighteen entries in the class for one dish of red Tomatoes. The fruits shown were very fine, and the first award went to Mr. J. Hill, after a close fight, for a grand dish of Suttons' Reading Perfection; Mr. J. Roberts was second with Webb's Jubilee; and Mr. Dawes third with Ham Green. Mr. G. Ryder secured the first prize for a dish of yellow Tomatoes, showing Golden Sunrise; Mr. J. Bury second; and Mr. J. Fry third.

Miscellaneous collections of fruit were numerous. Messrs. J. Cheal and Sons, Crawley, were awarded a silver medal for a splendid collection of Apples and Pears. Dwarf Apple trees, laden with fruit in pots, were also shown by Messrs. Cheal & Sons. Messrs. G. Bunyard & Co., Maidstone, also had a grand collection of fruit, highly coloured, for which a silver medal was awarded. Golden Spire, Potts' Seedling, Grenadier, and Lady Sudeley were very fine among the Apples in this contribution. Messrs. T. Rivers & Son likewise staged a remarkably fine collection of Apples, Plums, Pears, and Peaches in pots, the trees being covered with fruit, and were awarded a gold medal. Messrs. Lane & Sons received a similar award for a collection of orchard fruit and Vines in pots, the latter being very fine. Messrs. W. N. White & Co., Covent Garden, were awarded a silver-gilt medal for a large collection of English and foreign fruit. Messrs. W. Paul & Son, Waltham Cross, showed a number of Peaches and Nectarines in pots, the trees being laden with fruit. Messrs. Jarman & Co., Chard, had an extensive display of fruit and vegetables, for which they received a silver medal. Messrs. Butt and Son, High Street, Kensington, had a wonderful collection of market fruit, occupying 100 square feet of tabling, obtained from Mr. Munro, Covent Garden, Grapes, Plums, Figs, Melons, Peaches, and Nectarines, also Mushrooms, Cucumbers, and Tomatoes, were in splendid condition. A gold medal was awarded. Mr. J. Walker had twenty-four dishes of Apples, magnificent fruit of Grenadier, Lord Grosvenor, Peasgood's Noncsuch, Lane's Prince Albert, Peter the Great, Stirling Castle, New Hawthornden, Duchess of Oldenburg, Lady Sudeley, Damien, Bismarck, Cox's Orange, and Quarrenden. Mr. Rickwood, Twickenham, received a bronze medal for a collection of Peaches.

MISCELLANEOUS.

The miscellaneous exhibits were numerous and varied. Messrs. E. D. Shuttleworth & Co., Peckham Rye, staged a remarkably fine group of Palms, Crotons, Ferns, Liliums, and other plants, the whole making an imposing display. A gold medal was awarded. A small group of blue and white *Campanula pyramidalis*, showed by Mr. G. Wythes, Syon House Gardens, Brentford, and arranged with Palms and Ferns, was most effective (silver-gilt medal). Near by a collection of Crotons (silver-gilt medal) from Mr. F. McLeod, Dover House, Roehampton, attracted some attention. These were small plants, but most highly coloured, *C. Thompsoni* being particularly showy. We have seldom seen better coloured Crotons than these. Messrs. H. Cannell & Sons staged a splendid collection of Cactus and Pompon Dahlias, the flowers being fresh and bright. Ernest Cannell, Glory of Swanley, and Mrs. Rolfe were especially attractive in this group; a silver-gilt medal was awarded. Mr. C. Turner, Slough, also had a number of boxes of Dahlias effectively set up in bunches with their own foliage. This method might with advantage be more generally followed. Helianthus arranged similarly were very effective, and the Roses shown by Mr. Turner were likewise fresh and bright (silver-gilt medal).

Tuberous Begonias were well represented. Messrs. J. Laing and Sons, Forest Hill, S.E., staged a magnificent group of single and double varieties (gold medal). Possibly this was one of the finest groups of Begonias ever arranged. The flowers were remarkably fine, especially the double varieties. Among others Stanstead Gem, Duke of York, Duchess of Teck (a fine yellow), and Lady Esher (a splendid white)

were conspicuous. The plants were arranged in an undulating bank, the surface being broken by Palms and *Asparagus plumosus*. The group was edged with Maidenhair Fern, *Isolepis gracilis*, and small plants of *Caladium argyrites*. Messrs. Laing & Sons are to be congratulated on this magnificent display. On each side a small group of Palms and Ferns added to the effect. Messrs. Kelway & Sons, Langport, had a collection of Gladioli, Gaillardias, and hardy flowers (silver-gilt medal). Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, staged branches of hardy shrubs and trees (silver-gilt medal), amongst which were *Cornus alba* Spathi, *Cytisus capitatus*, and several Oaks, including *Quercus macrophyllus* (very fine foliage), and *G. pedunculata* Concordia (a yellow-leaved variety) were noticeable. Boxes of hybrid *Streptocarpus* and *Rhododendron* blooms were also shown by Messrs. Veitch & Sons. A group of Crotons from Messrs. B. S. Williams & Son, Upper Holloway, was also effective and a gold medal was awarded, whilst Mr. W. Marshall, Bexley, secured a similar honour for a collection of Ferns. Messrs. W. Paul & Son, Waltham Cross, staged a fine collection of Roses, bright, fresh and clean in appearance. A box of *Maréchal Niel* was particularly good for the season. Dahlias, Helianthus, Asters and other flowers were likewise shown by Messrs. W. Paul & Son, the whole being most effective and securing a gold medal. Three boxes of early flowering *Chrysanthemums* set up in bunches were shown by Mr. W. Beech, gardener to L. Seligman, Esq., South Kensington. Messrs. W. Cutbush and Sons, Highgate, and Messrs. Laing & Sons were awarded medals for collections of hardy flowers (the former receiving a silver and the latter a silver-gilt). Cape Pelargoniums and the plant of *Asparagus deflexus* mentioned in our last issue were shown by Mr. Hudson, Gunnersbury Park Gardens, and a silver-gilt medal was awarded. Mr. A. Rawlings Romford, had a stand of Dahlias and Helianthus, securing a similar honour. Orchids were finely shown by Messrs. F. Sander & Co., St. Albans, and a gold medal was awarded. Several species and varieties were also adjudged certificates. A number of new and rare plants shown by Messrs. B. S. Williams & Son were similarly honoured. Mr. J. R. Chard received a silver medal for his beautiful table decorations, Messrs. Herb and Wutte for a collection of cones, and bronze medals went to Messrs. Beech and McMillan for *Chrysanthemums*, Webb and Brand for Hollyhocks, and Gibson for Onions.

Apart from the splendid show of fruit and flowers above reported it may be of interest to mention that the landscape garden at the International Horticultural Exhibition is exceedingly beautiful just at present. This, as has been previously stated, is under cover, and early in the season some difficulty in getting the grass to grow was experienced. At present, however, the turf is as green as it possibly can be under the circumstances, affording ample proof that no small amount of trouble has been expended on it. The beds, too, are filled with beautiful flowering and foliage plants, those planted by Messrs. B. S. Williams & Son, J. Laing & Sons, G. Phippen, and other nurserymen being most effective. This noticeable feature of the Exhibition is alone well worth seeing, and country gardeners might with advantage pay it a visit.

THE DINNER.

Except on special occasions gardeners do not often meet in the manner in which they did at Earl's Court on Friday evening last. It was a typical gardeners' social gathering, and everyone seemed to enjoy the excellent repast provided. About 200 sat down to the dinner, and Mr. W. Thomson of Clovenfords occupied the chair. Amongst others present were Major Mackenzie (Superintendent of Epping Forest), the Rev. W. Wilks (Secretary of the Royal Horticultural Society), Mr. Ingram (Secretary of the Gardeners' Royal Benevolent Institution), Messrs. J. Laing, F. W. Burbidge, F. Moore (Dublin), Owen Thomas (the Queen's gardener), A. F. Barron, W. Marshall, A. Dean, R. Dean, J. Hudson, and many other well known gardeners and nurserymen.

After the customary loyal toasts had been drunk, the Chairman proposed—"Success to Gardeners and Gardening." On rising Mr. W. Thomson was received with much enthusiasm, and he made an eloquent and practical speech. He took a retrospective view of gardening, and said that while vast improvements in the craft had been made during the past half century, gardeners should not forget that there were successful cultivators in bygone days, and men with whom he had been acquainted. In Scotland they had had men who could grow Heaths such as were now rarely seen, while vegetables and fruit were equally well done. Many names he mentioned of successful cultivators who had passed away, but who were still fresh in their minds. Gardening, too, in the days to which he referred was carried on under greater difficulties, he said, than at the present time.

Regarding the wages question, Mr. Thomson spoke strongly and to the point. He hinted that there were gardeners and gardeners; some worthy of the name, others little more than garden labourers. There were men to be had for £70 or £80 a year, but cheap gardeners were dear in the end. He never lost an opportunity of urging employers to pay a fair salary and secure an efficient gardener; £100 per year would secure a good man. Gardeners, he said, taken as a whole, belonged to a superior class of society, and yet no men were so badly remunerated. They had a great responsibility resting on their shoulders, and so to speak, were always on duty. Why, therefore, should they not be better paid and better treated than they generally are? (Applause.)

The Rev. W. Wilks, in responding, remarked that he fully sympathised with what Mr. Thomson had said as to the remuneration of gardeners. Considering the abilities of gardeners generally he thought

they were the worst paid class of men in the land (hear.) For a long time he had been trying to impress upon gentlemen the fact that they should pay their gardeners higher wages.

Mr. W. Marshall proposed "Gardening Charities," mentioning the Gardeners' Orphan Fund, the Gardeners' Royal Benevolent Institution, and the United Horticultural Benefit and Provident Society. Messrs. A. F. Barron, G. Ingram, and J. Hudson responded on behalf of the respective Societies. Mr. Ingram, on behalf of Mr. H. J. Veitch and Mrs. Veitch, took the opportunity to thank the gardeners for the presents they had given the latter on occasion of their silver wedding.

Major Mackenzie gave "The Chairman," and reminded those present that not only was Mr. Thomson a veteran successful horticulturist, but that many of the best and largest gardens in this or other countries were under the management of men who had been pupils of Mr. Thomson. A brief response by the Chairman brought the proceedings to a close.

KINGSWOOD.

THIS promises to soon become one of the best Shows and most popular fixtures in the neighbourhood of Bristol. In the open classes the prizes are good enough to attract some of the leading plant growers in the country, while the local private gardeners, amateurs, and cottagers all show remarkably well. With twelve flowering plants Mr. J. Cypher, Cheltenham, was well first, these consisting of *Erica Austiniana*, *E. Marnockiana*, *E. Turnbulli*, *Allamanda grandiflora*, *A. nobilis*, *Anthurium Schertzerianum*, *Clerodendron Balfourianum*, *Ixora Pilgrimi*, *I. Fraseri*, *I. Williamsi*, *Erica Eweriana*, and *E. Thompsoni*. Mr. J. F. Mould was awarded the second prize. Mr. G. Tucker, gardener to Major Clarke, Trowbridge, was a very close third. Mr. Cypher was also first for eight fine-foliaged plants, having beautifully coloured *Crotons* and well-grown *Palms*. With six *Fuchsias* Mr. G. Harris, gardener to the Clifton Zoological Society, was first, Mr. T. Fussell being a good second. The best six Zonal *Pelargoniums* were shown by Mr. G. Tucker, the second prize going to Mr. W. Smith. The last named was easily first for six double-flowering varieties, Mr. S. Bryant, gardener to Dr. Grace, being second. Exotic Ferns were well shown. Mr. Tucker was placed first for eight varieties. Mr. W. Rye, gardener to Captain Bellfield, was a very close second.

In the classes confined to private gardeners and amateurs Mr. W. Rye was the most successful, but several other gardeners exhibited in a very creditable manner. The first prize flowering plants were staged by Mr. Rye, and all were in good condition; Mrs. Coles being second. Similar positions were occupied by these exhibitors in the class for six fine-foliage plants, Mr. Rye staging fine specimens. The best six exotic Ferns were also staged by Mr. Rye, all being large and healthy. Mr. J. W. Langdon was a good second. Tuberous *Begonias*, Zonal *Pelargoniums*, *Cockscombs*, and other plants were all well shown by various growers, the competition generally being close and good.

Cut flowers were a great feature of the Exhibition, the Bath growers being particularly well represented. For twenty-four triplets of *Roses* Dr. Budd, Bath, was a good first, and Messrs. Parker & Sons, Bristol, second. *Dahlies* were numerous and good. With twenty-four varieties and twelve *Fancies* Mr. G. Humphries, Chippenham, was first, being closely followed in both instances by Mr. T. Hobbs, Bristol. The best stand of single *Dahlias* came from Mr. A. A. Walters, Bath, Mr. Humphries being a good second. The last named won with *Cactus* varieties, Mr. F. Williams being second in this instance. *Asters* made a grand display, the best twenty-four French varieties being staged by Mr. G. Galloway, Bath, other Bath growers also showing well. *Gladioli* in twenty-four distinct varieties were more numerous than usual, the quality also being good. Mr. A. A. Walters was first, and Mr. W. Smith a close second, crowding the spikes in the latter instance greatly detracting from their appearance. The best twelve bunches of stove and greenhouse flowers were shown by Mr. Shelton, gardener to W. R. Wait, Esq., Bristol, Mr. G. Tucker following closely. *Begonias*, both single and double, were above the average, the classes also being better filled than at most exhibitions. The most successful with these were Messrs. T. M. Mobsby, gardener to Alderman F. F. Fox, and the Rev. G. H. Jackson. Hardy flowers in twelve varieties made a grand display. Mr. A. A. Walters was first, and Mr. G. Garraway second. Very good also were the *Hollyhocks* as shown by Mr. T. Hobbs and Mr. W. Smith.

There is considerable room for improvement in the fruit classes, though some of the single dishes shown were very good. The first prize in the open class for a collection went to Mr. E. Hall, Bath, and in the local class Mr. W. G. Coles was first, and Mr. P. Fussell second. Mr. S. Bryant had a first prize for grandly set and well-finished bunches of *Muscate* *Hamburgh*, and also for good *Foster's Seedling Grapes*; Mr. J. Marshall, gardener to Mrs. Doel, also being successful with *Grapes*. The best *Melon* was shown by Mr. Coombs, gardener to J. W. Langdon, Esq., Mr. E. W. Towill being second. With *Peaches* Mr. W. Rye was first, having *Crimson Galande* good; Mr. E. W. Towill was second, the last-named being first for *Nectarines* and Mr. Coombs second. *Plums*, *Apples*, *Pears*, and other hardy fruits were well shown, as also were collections of vegetables, the principal prizes for the latter going to Bath.

TRADE CATALOGUES RECEIVED.

Messrs. Fotheringham & Co., Dumfries.—*Bulbs and Roses*.
Messrs. Hogg & Wood, Coldstream and Duns, N.B.—*Bulbs*.



HARDY FRUIT GARDEN.

Gathering and Storing Fruit.—This is work requiring more or less daily attention from now onwards to the close of the fruit season. On its careful performance depend in a great measure the quality and keeping capabilities of even the best and most perfect samples of fruit. Good culture brings fruit to perfection in a natural manner sooner or later, but when this is attained means must be taken to insure its preservation either for long or short periods in the best possible manner. The first essential to success in securing perfect samples in every respect is to gather the individual fruits at exactly the right time. This can only be known by carefully watching the ripening process as it goes on at or near the period when each particular variety is known to be fit for use. In different localities the same varieties vary considerably in their time of ripening, as also they do in the same districts according as they are influenced by soil, position, and culture. The usual test, and one that is generally reliable for ascertaining the fitness or otherwise of fruit to be gathered, is to carefully raise up each fruit, when, if the ripening process has been almost completed, the fruit will separate itself readily from the spurs; but if the connection between the wood and the fruit is still strong, so as to render separation difficult without twisting and injuring the stalk, then the time for gathering has not come. Every fruit should receive as little and as careful handling as possible, laying each as gathered separately in flat baskets, taking care not to bruise or damage in the slightest degree the skins and the flesh immediately underneath. The nearer the fruits are to maturity the more care is required. Most fruits, *Pears* especially, are best gathered just before ripening is completed. When allowed to stay too long *Pears* develop a musty flavour; if gathered too soon the peculiar aroma of the variety is not secured, a watery taste being developed instead. *Plums* staying too long on the trees are apt to crack, and *Apples*, too, fall of themselves, becoming injured and useless for storing. Sometimes maggot affects the *Apple*, many fruits being spoiled by their boring and the premature ripening they induce. Gather all such fruits as soon as possible after they fall to prevent the depredations of the larvæ another year. All good fruits when gathered should be laid thinly in dry cool quarters, where they will develop their own peculiar aroma and flavour.

Protecting Fruit.—Wet weather affects all ripening fruit more or less, and if it is likely to be long continuous protection must be afforded to soft fruits such as *Currants*, *Plums*, and *Cherries*, which are often preserved on the trees as long as possible to afford a late supply. Any special fruits intended for exhibition ought to have the early protection of gauze bags, which effectually prevents all winged insects from attacking them. Large quantities of fruit may be enclosed with hexagon netting, which will baffle wasps and bluebottle flies, these also being caught by a sweet mixture of treacle and beer contained in bottles suspended among the branches of any trees they are likely to attack.

Perfecting Fruit and Wood.—The effects of good culture are always apparent in bringing fruit nearer to its proper season of maturity, improving its quality, and ensuring an excellent finish. It is noticeable that *Jargonelle Pears* produced on trees that have not been properly cultivated—that is, neglected in many important respects—are never so large, fine, and early as on trees better managed. The reason is that support, which should be directed to the fruit, is attracted powerfully in other directions, often to useless parts, and the development of the fruit is retarded or proceeds very slowly. Sometimes fruit cannot develop through lack of support by the roots. The remedy for this is the application of stimulants in the form of liquid and artificial manures. Assistance of this kind, however, must be applied judiciously, or the result may be the forcing of too strong wood growth, where that may be already plentiful and vigorous enough. Manurial assistance is best given during the period when the fruit is hard and green, its enlargement then needing acceleration and help the most. Moisture at other times during growth must be afforded, if not of a stimulative character, to assist the double strain of fruit-perfecting and fruit-bud-forming processes. The month of September is the period in which trees are employed in ripening the wood made during the current season. Any diminution of nutrition or moisture then occurring produces less plump fruit buds and stronger wood buds, also in some cases invites, especially during a very dry period, fresh attacks of red spider on the foliage, which arrests the important work the leaves perform, inducing premature wood ripening. When the roots of fruit trees are mainly produced near the surface of the soil feeding induces them to stay there, thus maintaining a proper balance of health, fertility, and vigour.

Peaches, Nectarines, Apricots.—The shoots which have borne the current year's crops having been relieved of fruit ought to be cut back to the point from which the succession shoots start, these being securely fastened to the wall to induce speedy ripening of the wood. This, perfect cleanliness of the foliage, and just sufficient moisture at the roots to maintain health and vigour without encouraging second growth, are the main points to be aimed at.

Outdoor Vines.—Regulate the laterals, and see that no overcrowding takes place. Where good crops of fruit are hanging little lateral growth will have been made lately, and what there is will, with some of the principal leaves, be required to shade the bunches of black Grapes, the white varieties enduring, as well as needing, more sun to ripen perfectly. Any bunches attacked by wasps or flies should be enclosed in gauze bags.

Plums and Cherries.—Secure the current shoots of Plums and Cherries to walls. Shoots which have been summer pinched to form spurs will probably be producing sub-laterals. These will require pinching or cutting back to one leaf. Any further growths produced afterwards rub out altogether. See that the current year's shoots of Morello Cherries are not left too thickly placed. Now, while the foliage is on, is the best time to see whether the shoots are crowded or otherwise. Any dead or dying branches remove at once, using a sharp saw, and making a clean smooth cut.

FRUIT FORCING.

Vines.—*Early Forcing in Pots.*—Vines for starting in November to supply Grapes fit for table next March or April must not be allowed to become dust-dry at the roots, for that impairs their vitality and causes the buds and growths to be weak. Sometimes the shoots are blind—the incipient bunches collapsing instead of developing—through the Vines having been kept too dry during the latter part of their growth to insure the ripening of the wood. The Vines should now be at rest, the wood quite ripe, the buds plumped, the laterals cut close home, and the canes shortened to about 6 feet, more or less, according to the situation of the buds. Dress the cuts whilst they are dry with the best French polish, or patent knotting, as a preventive of bleeding. They should be kept in a cool, airy house. If the Vines have to be bought they should be ordered now, so as to secure sturdy well matured canes, with plump buds, of the desired varieties. The most suitable varieties for very early forcing are White Frontignan, Foster's Seedling, Black Hamburgh, and Madresfield Court.

Earliest Forced Planted-out Vines.—To afford ripe Grapes in May the Vines should be started early in December, and they must be pruned and given a few weeks' rest before exciting them into growth. It is not necessary to wait until all the leaves are down before pruning Vines with thoroughly matured wood for early forcing, but the wood must be brown and hard, and the leaves turning yellow. If the Vines are in good condition they will afford useful bunches when pruned to a couple of buds from the base, but closely pruned Vines do not always produce bunches that are sufficiently taking in appearance for home use or market, and in that case the spur shoots may be left a little longer—say pruned to three or four buds, with a view to larger bunches. When this method is adopted (and it becomes necessary when the Vines are weak through heavy cropping or a long course of forcing) shoots should be encouraged from as near the base as possible when the Vines start into growth, and these should not be allowed to carry fruit, but be stopped at about the sixth leaf, the laterals at the first leaf, and the sub-laterals to one leaf as produced. The extra foliage will invigorate the Vines by the increased root action, and they will store more food, because they will lay on new and larger layers of wood, through which the sap will flow freely, and the Vines derive increased benefit accordingly for future crops. Moreover, the current crop will receive more support in consequence of the extra foliage, and such shoots are sure to form good buds, the fruiting growths being cut away in due time in favour of the other for fruiting the following season. This very old alternate system of fruiting necessitates the shoots being kept wider apart for development and exposure to light and air. Any extension should be cut back to plump buds on firm ripe wood, being guided by the space at command and the strength of the canes, always having due regard to ample space for the subsequent growths, for there must not be any overcrowding.

Weakly Vines.—Those not in a satisfactory condition may be improved by removing the soil down to the roots, picking it out from amongst them and supplying fresh loam, raising the roots where practicable and laying them in the new soil, especially those which are fibry and those proceeding from the collar. If the loam be deficient in calcareous matter add from a sixth to a tenth of old mortar rubbish, according to the nature of the soil, heavy soil needing most and light loam least. With the roots lifted, laid in fresh compost and covered 3 or 4 inches deep the Vines generally form abundance of fibres in the new material and become almost independent of the deeper roots, which are comparatively inactive through the lower part of the border having become effete. This is best done in advance of the leaves falling, and a gentle watering being given the roots will take to the new soil at once. It is a great mistake to allow Vines when at rest to become very dry at the roots, for the borders crack and part from the walls, causing the young roots to perish, and the soil is difficult to make thoroughly moist after it gets into a parched condition. The outside borders should have a covering of some kind to protect the roots from the heavy autumn rains, which reduce the temperature considerably. Glass lights are best so raised as to throw off rain and admit of a free circulation of air. The sun heat warms the soil, and a covering of leaves, with a little litter on them to prevent their blowing about, conserves the heat. It is necessary, however, to secure the thorough moistening of the soil before the Vines are started; therefore some growers expose the borders to the October rains, and merely cover them with leaves before cold weather sets in.

Late Houses.—Grapes have had a grand time of late, thunderstorms

to moisten outside borders, and a genial atmosphere, with abundance of light and heat. That is what Grapes want in the late stages of swelling, and because they often do not get those conditions inside the house the roots of the Vines are usually more abundant, and often of greater service in outside borders than those under glass. These must not lack water, for the Grapes swell considerably when ripening, and unless they finish plump they can hardly be expected to keep sound; indeed Muscat of Alexandria and late Grapes are a long time in ripening, and require abundant supplies of water at that period. They ought not to become dry at the roots even when the fruit is ripe. Those Grapes well advanced in ripening may have the atmospheric moisture reduced by freer ventilation, admitting a little air constantly, increasing it early on fine days, and by judicious early reduction of the ventilation the most can be made of sun heat. This is, after all, the best agent in the perfecting of Grapes, and moderate atmospheric moisture will not injure, but benefit the Vines, and assist the fruit in swelling. Whatever watering is necessary should be given in the early part of a fine day, and with air the superfluous moisture will soon be dissipated, the moisture produced having no deleterious effects provided the atmosphere is kept in motion by ventilation, and, if need be, a gentle warmth in the pipes. A day temperature of 70° to 75° is necessary by artificial means, falling 5° to 10° at night, but turning on the heat early in the morning so as to aid the sun heat, and with alternating cloud and sunshine secure a day temperature of 80° to 85°, with 10° to 15° advance on clear days. Keep the laterals well stopped and thinned, thereby admitting as much light as possible to Muscats and white Grapes generally, but black Grapes are better with a good even spread of foliage, yet without crowding the leaves, and there must not be large reductions of foliage at a time, as that might accelerate shanking, whilst frequent pinchings will not produce any appreciable check, but concentrate the forces on the perfection of the crop.

Young Vines.—Those which have made strong growth and are to be cut down to three plump buds from the bottom of the trellis to furnish a leader and side shoots, one on each side of the rod, another season, and to be grown in that way so as to produce their first crop in the third season, may be allowed to grow as long as they like, taking the precaution to keep the principal leaves that correspond to the pruning buds free of spray, so that that part of the cane may get thoroughly ripened. Vines, however, which are intended to do something more than "prove the variety" next year should have further growth discouraged by the removal of the laterals as they appear, taking care to leave some growth as an outlet for any excess of sap, otherwise the pruning buds may be started, and next year's prospects jeopardised. By this time the wood will be getting brown and hard, and the laterals may be gradually removed, cutting them back in the first instance to one joint, and in the course of twelve to fourteen days they may be cut away close to the cane, provided they have not pushed fresh growth; but if they start the buds on the laterals the growths must be pinched at the first leaf, and the removal of the laterals deferred to a later period. In this case the Vines should be assisted with fire heat, maintaining a minimum of 65° and a maximum of 75° until the wood is ripe, accompanied with free top and front ventilation.

THE FLOWER GARDEN.

Zonal Pelargoniums.—These are now growing very strongly, more so than at any time previously this season. If left to themselves they soon become crowded and weakly, whereas if kept judiciously thinned out the growth is both sturdy and floriferous. This also gives a good opportunity for putting in the requisite number of early cuttings, which will be found to pass through the winter more surely than late struck plants. If well established Zonal Pelargoniums, including the ever popular Henry Jacoby, can be kept well in boxes; but the bronze, golden and silver variegated varieties ought not to be trusted in them. All the latter, as well as late cuttings of the ordinary varieties, winter best in pots, the pots also being very convenient for storing on dry shelves and stagings. Six-inch pots, each holding about seven cuttings, answer well at this comparatively early date; but late cuttings keep better in 4-inch or slightly smaller pots, about five being placed in each. Any light sandy soil will do for the cutting pots, and if the cuttings are at all sappy trim them and let them flag for several hours in the full sunshine prior to inserting them. In any case keep them somewhat dry till they have callused, too much moisture causing them to damp off. If, therefore, the weather is dull and wet do not set the cuttings in an open sunny place, but give them the benefit of a glass covering, plenty of light and air being constantly admitted. The Ivy-leaf section, which not only bed out well but are particularly good for vases and hanging baskets, do not always strike so readily as is desirable, but if given the benefit of a moderately dry heat they will strike more freely; so also will most of the scented leaved varieties. The majority of them will strike the most readily in the spring, but if there are no large old stock plants in pots cuttings must be rooted now, as old plants do not lift well from open borders.

Tuberous Begonias.—These have not eclipsed the Zonal Pelargoniums so much as usual, the dry hot weather suiting the latter but not Begonias. These will have their turn most probably in September. Begonia cuttings treated similarly to Pelargoniums strike nearly or quite as readily. It is somewhat late to dibble them into a sunny border or at the foot of a south wall, but a number of cuttings of the best forms might well be inserted in small pots. They will strike root, form tiny tubers, and then die down, growing strongly again next spring. Late raised seedlings or any left in seed pans or boxes should not be destroyed

or interfered with. Keep them supplied with water and allow them to die down naturally in the open air. Every tuber, if no larger than Radish seed, will start into growth next spring and surpass any raised from seed in January or February. Winter them just as they are in a warm cellar or shed. Tuberous Begonias though beautiful in good mixture are still more effective when massed in separate colours. No time should be lost, therefore, in marking the various colours so as to be able to group them properly next summer.

Verbenas.—These are by no means played out, and they are yet among the best of summer bedding plants. They have grown strongly and flowered beautifully in spite of the presumably unfavourable character of the weather yet experienced. Seedlings in mixture are very attractive, but the best named varieties, in separate colours, only are tolerated where the flower beds are grouped and planted after a set plan. The great difficulty with Verbenas is in getting good soft cuttings in the spring, these only being available from healthy autumn struck stock plants. Now is the time to put in the cuttings. Select soft flowerless shoots, trim them at the third joint, and dibble them thinly either in pans or 5-inch pots, well drained and filled with a mixture of fine loam, leaf soil, and sand. Place them in a frame on a nearly exhausted hotbed, and keep them close, moist, and shaded till rooted. Winter them on shelves in a cool greenhouse.

Ageratums and Heliotropes.—Old plants of these do not lift readily. The former, it is true, can be most easily raised from seed, the strains also being good; but not so Heliotropes. If a few or many of the latter have been kept in pots to flower during the summer or autumn they will be found excellent for producing abundance of cuttings next spring. Failing these, strike cuttings of young shoots as advised in the case of Verbenas. Cuttings of Ageratums are frequently hard to obtain; but if procurable, strike them in gentle heat.

Iresines, Coleuses, and Alternantheras.—The two former seldom lift well, and besides the plants are frequently too clumsy for the purpose. Store plants in pots are ornamental enough, and produce abundance of cuttings in the spring; but if none of these exist, lose no time in rooting a number of tops, as frosts may cripple them earlier than anticipated. About six cuttings in each well-drained 5-inch pot are ample, and they ought to be kept close, shaded, and warm till well rooted. Should they give early signs of damping, enough air should be given every morning to dry the glass of the frame. Alternantheras move fairly well from the open ground, but not if they have been frosted. Few care to disturb the beds before they are obliged to do, and it is advisable, therefore, to strike a considerable number of cuttings now. Three-inch, or slightly larger pots, are the best size, five or six cuttings being placed in each. Treat as advised in the case of Iresines, and all three kinds of plants should be wintered on shelves in forcing houses or stoves.

Mesembryanthemum cordifolium variegatum.—This is somewhat difficult to manage, hence its being less often seen than formerly. Being of a succulent nature, cuttings inserted now, as advised in the case of Alternantheras, should be kept somewhat dry and in a dry heat, or they will damp off.

PLANT HOUSES.

Poinsettias.—These if brought forward under cool conditions will be sturdy plants with foliage to the base. Give more air during bright warm days; in fact, no harm will result if the lights are thrown off for a few hours during the hottest part of the day. Do not excite the plants into fresh growth by closing the frame too early in the afternoon. It will be wise to close it at night. Weak stimulants may be given occasionally, or better still, apply a little artificial manure to the surface of the soil. When the pots become filled with roots feeding must be resorted to, or the lower leaves will turn yellow and fall.

Euphorbia jacquiniæflora.—Well established plants may be given the same treatment as Poinsettias. Those in a more backward condition may be encouraged to grow, but must be fully exposed to the sun and given a free circulation of air daily. Firm sturdy growth must be made or they will fail to flower satisfactorily. Centropogons and Justicias may be grown under the conditions advised for these plants.

Crotons.—Good heads that need re-rooting should be moved at once. Side shoots that are well coloured may be taken off and rooted without delay in small pots; these will be found useful during the winter. Small plants that are well rooted may be placed into 4-inch pots and arranged on a shelf close to the glass in a warm moist structure. In this position the plants will colour freely and make capital decorative material before winter. Few plants are more effective than Crotons when well coloured for grouping during the winter months when flowers are scarce.

Gardenias.—Clean these thoroughly if infested with mealy bug by an application of petroleum and water; this should be continued at intervals until every trace has been eradicated. After syringing them with the solution a light shade should be applied until the oil has been evaporated. If plants are grown annually from cuttings they should be rooted at once. Select for this purpose young soft growths, which may be inserted in thumb pots, as every one will root in brisk heat if kept close and shaded from the sun.

Gloxinias.—Where these are appreciated, plants that flowered early and have rested may be shaken out of their pots and started again into growth. Young stock raised from seed will also flower profusely if they are placed into 4 and 5-inch pots. Do not grow them too warm, but shade them from bright sunshine.

Panicum variegatum.—Insert cuttings thickly into 3, 4, and 5-inch pots. They will root freely in a close shady place. A good stock of these plants are always useful for grouping during the autumn and winter. To have them in good condition no time should be lost in starting them, for unless well established they do not look well. A good stock of Mosses, Coleus, Fittonias, and other variegated plants should now be prepared in quantity.

Adiantum cuneatum.—If the fronds of these are to be of service when cut the plants must be grown freely exposed to the sun and given air daily; in fact, the fronds stand best when the plants are prepared in a cool house fully exposed at this season of the year. Plants that have yielded fronds for a long time, and have rested in a cool place, may be started into growth in heat. They will soon push up fresh fronds and yield a good supply for winter. Young plants in various stages of growth may be repotted if they need more root room. They will grow strongly and continue to produce capital fronds until February. Seedlings may be placed singly into thumb pots. Where seedlings are raised annually it is a good plan to place pieces of turf underneath established plants that have old fronds upon them. The spores will fall upon the turf and germinate freely. This is the easiest method of raising a stock of young plants.

Eulalias.—For grouping these are invaluable, and they are exceptionally effective in conservatories of large size. Plants that were divided in spring and have filled 6-inch pots with roots may be placed into others 2 inches larger. They increase much more rapidly when given liberal root room. When grown mainly to yield stock the plants should have a position where an intermediate temperature can be given them, as they increase much more rapidly than under cool conditions. Plants that are repotted now will continue growth until late in the year, and can be cut up into several good pieces next spring. Seed can be easily saved, but so far we have only succeeded in raising plants with green foliage. These, however, are useful, and afford variety if associated with other plants of a suitable nature.

THE BEE-KEEPER.

APIARIAN NOTES.

SUPERIORITY OF LANARKSHIRE HIVES AND PUNIC BEES.

THAT outside the pages of this *Journal* the criticism on Punic bees has been unjust and not in accordance with actual fact there cannot be the slightest doubt. Every week brings more evidence in support of my own experience. I am always of opinion when I see clergymen taking a one-sided view through party spirit that they are remiss in the more important duties they are expected to perform. I admire the articles of one when he abides by his quaint remarks, proverbs, anecdotes, and his own experience; but when he goes into deep water and meddles with matters he has evidently no knowledge of he stultifies himself. As an example: he in support of a certain editor said in effect, had he accepted the "prima facie evidence" they would have seen through the whole matter. He himself has done the opposite and accepted the secondary information on evidence. So confident am I that bee-keepers are being misled, that if anyone cares to visit our bees at the Heather (which will be cheaper than going to Africa) and finds them wanting in weight I will pay his fare to and fro; there are at least four individuals here who possess these bees. The following evidence from a reader of the *Journal*, a stranger to me, is interesting. Speaking of Punic bees he says:—"I have had the best results from one of her offspring, seventy-five sections, and the body of the hive is still too heavy. We have had a poor season here. If it were not for my big colonies I should not have been so well off for honey. Very few, if any, of the so-called standard hives have stored more than one crate of twenty-one sections. Where they have even got so much the hive will require to be liberally fed, whereas my hives are mostly too heavy. I have no extractor, not having got that length yet. I sold 100 sections on 15th July for 1s. 3d. per section, they were well sealed but not so full as I have seen them."

DRIVING AND TRANSFERRING BEES TO FRAME HIVES.

Will you please state which is the best way to drive five hives of bees from the old skeps into bar-frames, as I should like to have them all in bar-frame hives. If you could assist me in any way I should feel obliged. Could more than one be put together in the new hives?—T. T.

Invert the straw hives after you have given them a slight puff of smoke, or better still, smear a little carbolic acid upon the floor at the entrance, and push the saturated feather underneath the bees. Place an empty hive over the tenanted one, and rap on the sides of the hive of bees with two split willows or other rods, when

the bees will, after filling themselves, retreat to the empty hive. Then invert the hive containing bees beneath the frame hive, and they will run up into it, or remove three or four of the frames and shake the bees down at the open side, or draw the doorway the full length, and with a tumbler lift the bees, and shake them upon the alighting board that has a gangway with ledges from it to the ground, or shake them bodily on to the alighting board. They are not so flighty as swarms. But why not adopt one or more of hivers such as I use, and have explained repeatedly in these columns? It is one of the most useful appliances in the apiary. Two or more lots of driven bees may be shaken together without any fighting. If not gorged sprinkle both lots with very thin syrup or with pease meal, the very old Scotch fashion.—A LANARKSHIRE BEE-KEEPER.

APICULTURAL ITEMS.

MR. COWAN quotes Benton as disagreeing with the name of "Punic" bees, saying it should be "Tunisian." What will he say to Benton trying to call Carniolans "Carnic" bees in the August American *Apiculturist*? Imitation is flattery indeed. Benton, in a long article which clearly shows he has forgotten what he previously said, and has not had copies to refer to, tries to explain in the *Apiculturist* that what I said about yellow Carniolans on March 10th conveyed a wrong impression of his views. I do not admit this to be a fact, nor did I question his "views." I was answering somebody else, and not Benton at all. When a man quotes people as authorities in support of a certain position, describing them too as "intelligent," is it manly to afterwards turn round and say "Because I quoted what had been said to me by 'two intelligent bee-keepers from Upper Carniola' that I necessarily subscribe to their views?" He did not hint in the least at the time that he disagreed with them. He now says, "But I thought then, and still think, that they are a decided mark of impurity"—i.e., yellow-banded Carniolans. The italics are Benton's. If he thought so, then why did he not say so?

I do not know what Mr. Cowan will think now; he has been relying on Benton, and calling on Alley to publish Benton's after statements on the "True Colour of Carniolans." Alley has done so, and here is what Benton says of him. "He (Mr. Cowan) published my article containing my own statement that yellow-banded bees are met with in various parts of Carniola, and also my quotation of certain Carniolan bee raisers who claimed that such bees were not impure. But it seems that neither Mr. Cowan nor myself think them pure. How he explains their impurity (if he has ever attempted to do so) I do not know, nor would I attach any weight to his views in this direction, for I do not consider him any authority in this matter." Is it not cruel to be thus told he "does not consider him any authority" on such a well known race as Carniolans? How Mr. Cowan can pose as an "authority" regarding the newer race, Punics, after this is beyond my comprehension, for he admits he never saw a stock at work in this country, and says he does not know of anyone who has.

Benton makes it clear that yellow banded bees exist in Carniola, and that he and many others, "in Europe, at any rate," saw them. Mr. Cowan's statement which I questioned was, "No one, in Europe, at any rate, has ever seen or heard of pure Carniolans being yellow," and Benton further says that it "would be quite possible to produce, by constant selection, a full-banded yellow strain." Just what Alley claims to have done, and which Mr. Cowan says is impossible.

When "Old Father Langstroth," as the Americans reverently speak of him, is favourably impressed with Punics, and advises bee-keepers to give them a trial, particularly in crossing with Italians to make them more ready to work in supers, the advice of their enemies will not count for much. Langstroth is above question, whatever may be said of anyone else. He is known as the inventor of the bar-frame hive, and the pioneer in introducing foreign races of bees into America. He bred and sold home-reared Italian queens at 20 dollars each, equal to £4, with no guarantee of introduction. My price of 20s. is said to be extortionate by the same man who paid four times the price.

Mr. Benton is alleged to have said, "When you least expect it—i.e., when they have been well, and even royally treated, they will sally out and cover the manipulator with their tiny javelins." Whatever he may say now will not alter what he said in his price list issued in 1886, after his second and last journey to Tunis, as follows: "Tunisians are the blackest bees I have ever seen, are excellent honey gatherers and easy to subdue by using smoke." Since then he has never seen a "Tunisian" becalive, so he cannot plead that he had made a mistake, which he subsequently found out. We also read, "Mr. Benton was one of the first to send out queens from Tunis." Yes, he was, and I myself got the only live queen he ever sent to Europe, no others ever landing alive until 1890 from that country.

Mr. Cowan says, "Mr. F. Benton entirely altered his views when he became better acquainted with Carniolan bees." Mr. Benton has now made it clear that he has not altered his "views," and he also makes it clear that while in Carniola, and when he left he could "view" yellow-banded bees all over the province, and his statement still stands good that he "has yet to see an apiary in Carniola where yellow-banded bees do not exist."

On page 180 "A. L. B. K." asks me to explain "how a worker bee can

become a producer of worker bees and queens." Before I begin trying to explain a natural law, first let it be established that the law exists. From what I understand no one can explain a natural law of any kind. I have told our friend how to test the matter on page 134, and when he has done so no doubt he will modify some of his views respecting laying worker bees.—A HALLAMSHIRE BEE-KEEPER.



TO CORRESPONDENTS

* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Suckers from Poplar Roots (*Ignoramus*).—The best plan would be to trench the ground and remove the suckering roots. If that is impracticable on account of other trees or objects, the suckers may be pulled up as they grow and can be taken hold of. If this is persisted in it will weaken the roots, so that they will send up suckers less freely, but it will be some time before they disappear.

Morello Cherry Trees Dying (*A. G. W.*).—No one can tell you the cause of the trees dying, in the absence of particulars relative to their age and the treatment to which they are subjected. Some trees are weakened by overcrowding and insects, others fail through want of lime and other minerals, while old trees wear out sooner or later. If you supply information on the points suggested, also repeat the character of the soil, the case shall have our best attention.

Begonias (*F. J.*).—You give no references, but we presume you allude to the papers read at the Begonia Conference at Chiswick last week. These will be published in the Journal of the Royal Horticultural Society, which is distributed free to Fellows of the Society, and surplus copies sold. We do not know what the price of the next issue will be nor when it will be published. You can obtain information by writing to the Secretary, R.H.S., 117, Victoria Street, Westminster.

Plants for Walls (*C. J. L.*).—We do not know of any flowering plants that would thrive and flower well against the walls of a stove that is "very shaded." Flowering plants require plenty of light to make their growth, for unless sturdy and thoroughly matured they will not flower freely. Euphorbia jacquiniæflora succeeds very well in Cucumber houses that are only used for that purpose in summer, but a Cucumber house in winter is much too hot for flowering plants. Abutilons would do in the Tomato house, but you give us no data whatever for guidance.

Tomatoes Failing (*X. Y. Z.*).—Persons who grow Tomatoes extensively for market year after year find it remunerative to change the soil periodically, removing some from the house to the garden or field and introducing an equal quantity from the field or garden. Some soils support the crops longer than do others, the difference being a question mainly of phosphates and potash. A mixture of two parts superphosphate of lime and one part muriate of potash applied earlier in the season at the rate of 3 or 4 ozs. to the square yard might have assisted your plants, but we presume the time has passed for it to be of any substantial use this season.

Tenants' Glass Structures (*Inquirer*).—Your questions could perhaps be better answered by a lawyer or surveyor than by us. Broadly speaking, tenants' structures are those which are not attached to the ground by bricks and mortar, and we should not recommend you to remove such houses against the wish of the landlord without legal advice on a specific case. Boilers when not set in brickwork attached to the ground are removeable, and there are plenty of such to be had. We have no particulars of the cost of heating greenhouses and other garden structures with gas. If any records on the subject are sent to us by gardeners or amateurs they will receive attention with a view to publication.

Ferns for Decoration (*T. D.*).—The following varieties will do well for winter decoration:—*Pteris serrulata*, *P. serrulata cristata*, *P. serrulata major cristata*, *P. Mayi*, *P. argyrea*, *P. albo-lineata* and *P. tremula*, *Adiantum cuneatum*, *Asplenium bulbiferum* (useful in a

young state), *Lomaria gibba*, *Davallia Mariesi*, *D. bullata*, and *D. Tycermani*, *Microlepia hirta cristata*, *Nephrodium molle*, *Nephrolepis davallioides* and its variety *furcata*, the old *exaltata* also being useful. *Polystichum proliferum* is also useful and effective in a small state. Had you stated what variety of *Aralia* you had that had grown too tall we should have been able to tell you how to propagate it. If you supply this information we will gladly do so.

Bilberries and Cranberries (G. B.).—The fruit is wholesome, and enjoyed by some palates. The reason why the plants do not grow in your district is probably because, as you say, it is "high and dry." They like moisture. The berries are subacid, moderately astringent, and agreeably flavoured, and contain mucilage, sugar, malic and citric acid, and an astringent substance, which exercises a tonic effect. The common Bilberry or Blaeberry (*Vaccinium myrtillus*) grows abundantly on the moors of England and Scotland, and produces berries of the size of Currants, of a bluish-black colour, covered with a mealy bloom. They are eaten either raw or in tarts with cream, or made into jellies with sugar. In Devonshire they are eaten with clotted cream. With the juice of the berries mixed with the bark of alder, powdered and mixed with alum, the inhabitants of northern Russia dye their hair of a bright red colour. The fruit of the Great Whortleberry (*V. uliginosum*) is large and black, but less juicy than the preceding, and neither so agreeable nor so wholesome, on account of its narcotic properties, which, when the fruit is eaten to any extent, cause headaches and vertigo; they are sometimes put into beer to make it heady, and, when fermented, they make an intoxicating liquor. The Cowberry, or Red Whortleberry (*V. vitis idaea*) is abundant on the dry, barren moors of Scotland. The berries are dark red, acid, and austere, and not so agreeable as either the Cranberry or Bilberry. They make an excellent jelly, which is esteemed for colds and sore throats, or to eat with roasted meat, for which latter purpose the Swedes use it extensively to venison, and consider it superior to Currant jelly. In Wales it is eaten with roast mutton. The common Cranberry (*Oxycoccus palustris*) grows in mountainous districts in the northern regions of the Old and New World, and is also found in many parts of Britain. The berries are Pear shaped, globular, often spotted, crimson, of a peculiar flavour, with a strong acidity. They are much esteemed in tarts. The American Cranberry (*O. macrocarpus*) produces fruit much larger than the preceding, and of a brighter red colour. The plant grows wild in many parts of America, but is also cultivated for its fruit.

Cropping Vines (J. H.).—You wish to know the reason of the bunches of Grapes being so much larger at the top of your Vines than they are towards the bottom and for some distance up the rods. This is by no means an uncommon occurrence, though we know of many exceptions. The bunches are the largest near the top because the wood is stronger and the buds from which the fruiting laterals grew were bolder than those much lower down. The evil, for an evil we consider it to be, is aggravated by leaving the leading cane too long at the winter pruning. The sap ascends to the highest point, forces the growths there, and these deprive the laterals lower down of the support that is essential to induce them to grow strongly and produce fine leaves and bold buds. When the balance of strength is lost to a material extent it is not easy to restore it. The strongest of the lower laterals only should be retained, and these trained not less than 15 inches apart along each side of the rod, and they may be allowed to extend more than the stronger ones above them. If there is room for the development of the leaves, three or four may be allowed beyond the bunches (if any), while the stronger laterals towards the top may be stopped at one leaf beyond the bunch and all subsequent growth promptly suppressed. About this time of the year the long lower laterals may be half shortened to "plump" the lower buds. In the spring the rods should be taken down and trained horizontally, or rather bent so that their ends are as low as they can be conveniently brought below the horizontal line, and there remain till the lower buds have pushed an inch or two of growth, then with great care place the rods up the roof. If you can give the lower buds the leaf you need have no fear about those towards the top lagging very long behind. It is a mistake to leave a great length of young cane for bearing when the Vines are to be trained on the spur system, also a mistake to denude the lower part, from the ground up to the roof, of buds, as some growth down to the ground causes the stem to thicken and equalises the sap throughout. The upper part of a house is, moreover, often warmer than the lower, unless thought is exercised in early and a little constant ventilation by the top sashes.

Names of Fruits.—*Notice.*—Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. (W. Smith).—Most of the fruits are insufficiently matured for naming, while the stalks of some and segments of others were broken, thus increasing the difficulty of identification. 1, Lord Suffield; 2, not determinable; 3, Cox's Orange Pippin; 4, Dumelow's Seedling; 5, perhaps Scarlet Nonpareil; 6, possibly Wyken Pippin. (W. Mansell).

—As you have sent summer shoots with the fruit, also described the flowers, we have been able to identify the variety as Sea Eagle.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (R. M.).—We cannot name flowering plants from leaves alone. See the above conditions. (J. W.).—The lid of the box was broken and the pieces pressed down on the specimens, crushing them seriously. 1, A florist's variety of Clematis, which we do not undertake to name; 2, *Bignonia cherere*; 3, not yet identified; 4, crushed, possibly *Campanula garganica*; 5, totally insufficient; 6, *Achillea Ptarmica*.

COVENT GARDEN MARKET.—AUGUST 31ST.

MARKET very flat indeed, with prices much depressed.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, half sieve ..	1	0	3	6	Oranges, per 100 ..	4	0	9	0
Grapes, per lb. ..	0	6	1	6	Peaches, per dozen ..	2	0	6	0
Filberts, Kent, per lb. ..	0	8	0	9	Plums, per half sieve ..	2	0	4	0
Lemons, case ..	15	0	35	0	St. Michael Pines, each ..	3	0	6	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beans, Kidney, per lb. ..	0	2	0	0	Mustard and Cress, punnet ..	0	2	0	0
Beet, Red, dozen ..	1	0	0	0	Onions, bunch ..	0	3	0	5
Carrots, bunch ..	0	4	0	0	Parsley, dozen bunches ..	2	0	3	0
Cauliflowers, dozen ..	2	0	3	0	Parasols, dozen ..	1	0	0	0
Celery, bundle ..	1	0	1	3	Potatoes, per cwt. ..	2	0	5	0
Coleworts, dozen bunches ..	2	0	4	0	Salsify, bundle ..	1	0	1	6
Cucumbers, dozen ..	1	6	3	6	Scarzonera, bundle ..	1	6	0	0
Endive, dozen ..	1	3	1	6	Seakale, per basket ..	0	0	0	0
Herbs, bunch ..	0	3	0	0	Shallots, per lb. ..	0	3	0	0
Leeks, bunch ..	0	2	0	0	Spinach, bushel ..	3	0	3	6
Lettuce, dozen ..	0	9	1	0	Tomatoes, per lb. ..	0	2	0	4
Mushrooms, punnet ..	0	9	1	0	Turnips, bunch ..	0	3	0	4

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	2	0	4	0	Maidenhair Fern, doz. bels. ..	4	0	6	0
Asters, French, bunch ..	0	9	1	3	Marguerites, 12 bunches ..	2	0	4	0
" English, doz. bunches ..	2	0	6	0	Myosotis or Forget-me-not, ..				
Bouvardias, bunch ..	0	6	1	0	dozen bunches ..	2	0	3	0
Carnations, 12 blooms ..	0	6	2	0	Mignonette, 12 bunches ..	1	0	3	0
Carnations, Malmalson, 12 ..					Orchids, per dozen blooms ..	2	0	8	0
blooms ..	1	6	6	0	Pansies, dozen bunches ..	1	0	2	0
Carnations, dozen bunches ..	4	0	6	0	Pelargoniums, 12 bunches ..	4	0	6	0
Cornflower, dozen bunches ..	1	6	3	0	" scarlet, 12 bunches ..	3	0	4	0
Chrysanthemums, dozen ..					Poppies (var.), doz. bunch ..	1	0	4	0
blooms ..	1	0	2	6	Primula (double) 12 sprays ..	0	6	0	9
Chrysanthemums, dozen ..					Pyrethrum doz. bunches ..	3	0	6	0
bunches ..	6	0	12	0	Roses (Indoor), dozen ..	0	9	2	0
Eucharis, dozen ..	1	0	3	0	" (outdoor), doz. bunch ..	2	0	6	0
Fuchsias, per bunch ..	0	6	1	0	" Red, per doz. blooms ..	1	0	2	0
Gardenias, per dozen ..	2	0	4	0	" Tea, white, dozen ..	0	6	2	0
Gladioli various & spray ..	1	0	2	0	" Yellow, dozen ..	2	0	4	0
Gypsophylas, English, ..					Stocks, dozen bunches ..	3	0	5	0
per bunch ..	0	3	0	6	Sunflower, doz. bunches ..	2	0	6	0
Lavender, doz. bunches ..	4	0	6	0	Sweet Sultan, doz. bunches ..	2	0	3	0
Lilium longiflorum 12 ..					Sweet Peas, dozen bunches ..	1	6	4	0
blooms ..	2	0	4	0	Tuberose, 12 blooms ..	0	3	0	6
Lilium (var.) doz. blooms ..	0	6	2	0					

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbutus (golden) dozen ..	6	0	12	0	Hydrangea, per dozen ..	9	0	15	0
Begonia, per dozen ..	6	0	12	0	Lobelia, per dozen ..	3	0	6	0
Chrysanthemums, per doz. ..	6	0	9	0	Lycopodiums, per dozen ..	3	0	4	0
" large plants, each ..	1	0	3	0	Marguerite Daisy, dozen ..	6	0	12	0
Cupressus, large plants, each ..	2	0	5	0	Mignonette, per dozen ..	4	0	6	0
Dracena terminalis, dozen ..	18	0	42	0	Myrtles, dozen ..	6	0	9	0
" viridis, dozen ..	9	0	24	0	Palms, in var., each ..	1	0	15	0
Euonymus, var., dozen ..	6	0	18	0	" (specimens) ..	21	0	63	0
Evergreens, in var., dozen ..	6	0	21	0	Pelargoniums, scarlet, doz. ..	2	0	4	0
Ferns, in variety, dozen ..	4	0	18	0	" per dozen ..	6	0	12	0
" small per hundred ..	6	0	10	0	Rhodanthes, per dozen ..	4	0	6	0
Ficus elastica, each ..	1	6	5	0	Trailing plants (various), ..				
Foliage plants var., each ..	2	0	10	0	per dozen ..	3	0	9	0
Fuchsia, per dozen ..	3	0	6	0	Tropeolum or Nasturtium ..				
Geraniums, Ivy ..	4	0	6	0	per dozen ..	3	0	4	0



THE SIZE OF FARMS.

HOME farmers, what of your balance-sheets? Are you still able to pay your way, or are you falling into arrears, which grow heavier year by year? If so, there must be a change in some way

or other; for if you, with a market at hand for all your best produce, cannot make farming answer, who can?

It is clearly understood that the class of farms we write for are kept in hand specially for the production of an ample supply of all that a well managed farm affords for the requirements of the hall, mansion, or castle, as the case may be, only surplus produce being sold, a fair market value being placed upon everything sent to the house for home consumption, also to the hunting and carriage stables. Whether such supplies are large or small it matters not, provided sufficient land and other means are available to produce them. Then comes the question if it is worth while adding sufficient land to the farm to obtain enough surplus produce for sale to cover expenses. Certainly it is; only remember that such produce must be of the best quality of a kind always in demand, for which there is a prompt and profitable sale.

"Profitable sale!" says the corn farmer. "Is such a thing possible for anything we have to dispose of?" Well may he say so, for his foolish persistence in devoting most of his holding to corn-growing is leading him to ruin as certainly as a thing can do which costs twenty shillings to produce and for which fifteen shillings only can be had in our best markets. In the third week of August an East Anglian farmer at Bury St. Edmunds Corn Market sold the produce of 16 acres of Wheat for exactly the same money as he obtained for that of 6 acres a year ago. This farmer is well known to us as a member of a farmers' club, where an address which we gave on the advantages of dairy farming over corn-growing was met by an assertion that East Anglia was not a dairy farming district. That address was given some four years ago. Corn-growing has gone steadily on; there has always been some profit on a good malting sample of Barley, but the struggle has become more and more severe, the depression deepens in intensity, and it really appears that the change in farming which is bound to come must spring from the ruin of many more men of the old school yet.

We have always held that a home farm should be so well managed as to be the model farm of the estate, where the tenants might see the best methods of culture and the best results. It should be something more than this. It should afford examples of what is possible in the way of advantageous change, having, on large estates at any rate, its butter factory supplied with milk from the home farm and from any of the tenants who can be induced to send milk, and we can hardly conceive of a tenant farmer who would not gladly avail himself of such a ready market for his produce. Some few landlords have tried it to the mutual advantage of themselves and their tenants; we would urge others either to do so too, or better still, to set going a co-operative factory, taking up many or most of the shares at first, then gradually allotting them to the tenants as they applied for them. There must in the future be something more than passive acquiescence in the situation, there must be positive effort to amend it. The interests of landlord and tenant are so involved that combined action is most desirable.

Another important adjunct to such home farms is a fruit evaporator. Lord Sudeley has shown at Toddington what wonders can be done in fruit growing and jam making. Of far greater general importance is the planting of free bearing sorts of Apples and the introduction of fruit driers or evaporators on all model home farms. Fruit farming and fruit evaporation have a great future in this country; let us do all that is possible to promote fruit farming without placing too much stress upon what has been done, or upon difficulties in the way. We are bound to break up the foreigners' monopoly of the dried fruit trade which has assumed such gigantic proportions, because every pound of dried Apples imported might just as well have been prepared from home-grown fruit in our own evaporators. As yet farmers generally are ignorant of fruit production in a systematic manner, to say nothing of fruit grading, of the paring, drying, and packing of Apples, which

affords employment to tens of thousands of labourers in winter in the United States of America, whence all our supplies of dried Apples come.

If the home farm can be enlarged sufficiently to lead the way to better things, to become practically a school of modern agriculture, showing by actual demonstration how to change, and what is worth changing for, it would indeed prove a boon to the tenants. A tenant farmer of limited—probably straitened—means cannot afford to indulge in speculative novelties which may lead to a heavy loss. That is why we so strongly advocate co-operation, in landlords leading the way, and so indirectly helping themselves.

WORK ON THE HOME FARM.

Thunder showers have brought on late-sown Swedes with a rush, so that singling has had to be pushed on as men could be spared from the harvest fields. There has been very little difficulty about this, as much of the corn in southern counties has been carted. So far there is no sprouted grain; better still, the Wheat is so hard and dry that home-grown samples will closely approach the best imported samples in quality. Holders of old Wheat are likely to suffer from this: reports of last week's markets show that they are already doing so, the old crop being much neglected and disparaged by buyers. The imperial average price on sales returned for the week shows a decline of 4d., which may in part be accounted for by the increasing quantity of old Wheat crowded upon the market.

Self-binders stand pre-eminent this harvest, with corn so erect that the work has gone on briskly without hindrance of any sort. As usual the gloriously fine hot weather has made some men over-confident, and on our long journeys by rail we have at dusk seen acres of Wheat cut and tied, but the sheaves have not been set up in shocks. This is wrong, for our fickle climate cannot be trusted, and it is a serious matter to have the sheaves saturated by a heavy thunder shower. Barley is bright in colour, with full plump grain, and good malting samples will be so plentiful that prices will probably have a downward tendency. The crop is a fine one, which will help many a struggling farmer to pull through one more Michaelmas.

Push on autumn tillage, every hour of fine weather now is a golden opportunity to be turned to the best account. Work double tides now; get the land clean, throw it up for winter, and rest when days are short and weather broken. Far better to do so than to spin out the ploughing throughout the winter—aye, till seed time is upon us in spring, as is so frequently done. When the corn is once in the stack leave it alone till autumn tillage is over; do not fritter away fine weather in premature corn thrashing, but turn to the land and keep to it till the farm is in thoroughly trim condition for the coming winter.

The time for sowing winter corn is upon us. Do not forget that early sowing means early reaping, a crop saved, land cleared in good time for autumn tillage. Do not sow an acre of winter corn in soil at all deficient in fertility without some manure. For land in fair heart 4 cwt. of superphosphate or basic slag per acre is sufficient now; if it is very poor add 1 cwt. of sulphate of ammonia.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.				Rain.
1892. August.	Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- peratnrc.		Radiation Temperature		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.
Sunday .. 21	30.243	68.4	58.9	S.	60.8	76.0	49.7	114.0	46.8	—
Monday .. 22	30.062	63.1	58.8	S.E.	60.8	79.2	49.0	117.0	43.2	—
Tuesday .. 23	29.840	67.3	61.9	E.	60.6	78.9	53.6	112.3	48.9	0.056
Wednesday 24	29.783	65.9	62.8	W.	61.5	76.3	60.2	117.3	56.1	0.020
Thnrday .. 25	29.724	60.5	58.6	S.W.	62.1	72.6	58.3	115.6	57.3	0.010
Friday .. 26	30.029	61.8	56.7	W.	61.4	71.9	54.2	120.1	49.7	—
Satnrday .. 27	29.880	63.3	57.9	S.W.	60.9	66.6	52.7	90.5	48.7	1.710
	29.937	64.3	59.4		61.2	74.5	54.0	112.4	50.1	1.796

REMARKS.

- 21st.—Cloudless early; more or less haze during the day.
 22nd.—Sunny morning; haze and cloud in afternoon.
 23rd.—Warm sunny morning; cloudy after 3 P.M.; rain from 6.30 to 7 P.M.
 24th.—Overcast early; generally sunny after 10 A.M.
 25th.—A little rain early; occasional sunshine from 11 A.M. to 2 P.M.; slight showers in afternoon, fine evening.
 26th.—Overcast early; sunny after 11 A.M.
 27th.—Occasional sunshine early; showery after 11 A.M., and continuous heavy rain from 2 P.M. to 7 P.M., and from 4.30 A.M. till after 9 A.M. on 28th.
 A warm and fairly fine week, finishing with an exceptionally heavy rain.—G. J. SYMONS.



MENTMORE REVISITED.

TEN years ago the writer paid a visit to Lord Rosebery's beautiful English home in the fertile vale of Aylesbury, and after hearing Mr. J. Smith's paper on Plums read at Chiswick and referred to on page 184 last week a desire was awakened to see the trees again. Ten years since they were small and supported by stakes, but the same trees are now self-supporting in more ways than one, for they need no stakes, and pay their way—that is, give a good return on the outlay which has been invested in the plantations and the cultural care bestowed on them. The progress they have made is altogether satisfactory, and if there is a finer example of orchard Plum culture in the kingdom it will be worth a long journey to inspect. Evidently the soil is naturally adapted to Plums, for fine old trees, especially of Damsons (with an undergrowth of Aylesbury ducks), are growing round many a homestead. Probably the beautiful and fruitful condition of these suggested to the late Baron Meyer de Rothschild that he might both improve the appearance and increase the value of his estate by planting somewhat extensively. This was done, and done well, for Mr. Smith, then, and happily still, the gardener at Mentmore, is as sound a cultivator as Britain boasts, and the word failure has no place in his vocabulary. He is not the man to work without thinking, nor to undertake what is impracticable, and, after seeing his way clearly, he does his work thoroughly, and waits watchfully yet confidently for the issue.

It is a question of somewhat long waiting for profitable crops of Plums in the strong soil—clay with an admixture of chalk—eight or nine years elapsing from planting before any substantial amount can be realised; but the trees being on grass the cost of attending to them is not great, and when once they become profitable they continue so for two or three generations, as is evident by old established trees in the locality. Not far distant, where the land is lighter and drier, the trees bear profitable crops in three or four years, but soon lose vigour, and wear out long in advance of those growing in a more substantial food-holding medium. Strong soil, firm soil, well fed soil, are what Mr. Smith regards as the essentials for profitable crops of Plums over a prolonged period, and these conditions provided as at Mentmore the plantations distinctly contribute to the beauty of the landscape and enhance the value of the land.

As to beauty, what is more charming than say 50 acres of Plums when white with blossom? shining like a silvery, billowy sea in the sunshine of early spring; and what more satisfying than the harvest of purple and other colours which the varieties assume as they change for ripening in the summer and early autumn? Then the trees individually possess a beauty of their own, especially to the cultivator, in their characteristic forms, and open yet well balanced heads, full of fruit, for where light finds free access fruit follows, and it may as well be had, as it may be with very little trouble right through the trees as well as at the ends of the branches. The crop at Mentmore is not all outside show, and we have to go amongst the trees and look into them to appreciate the full bounty of the yield. Passing along the road and taking a general glance the crop does not appear a heavy one, but as we drive between the rows of trees we see that it is heavy enough for the fruit to be fine and profitable without being unduly exhaustive. A "glut" is not desired, but even in the great Plum year of 1878

Mr. Smith had no difficulty in selling his crop of 60 tons of fruit. Such overlading, however, "gives the trees a shaking," and they require time for recuperation.

As to profit, the late Baron was right in his forecast, and the Plum plantations on grass would now let as readily for £10 an acre as the surrounding fields would at £2 or even 30s. That is conclusive. It is no vague estimate founded on fanciful figures, but a verity based on experience in the actual sale of fruit. The plantations have been greatly extended since the estate passed to Lord Rosebery by his marriage with a lady whose grace and goodness brightened the district, and whose loss is still deeply mourned by the inhabitants of every creed and class. It is gratifying to observe that his lordship cherishes his princely home and its beautiful surroundings, and well-considered improvements in planting young trees and thinning older plantations, making roads, removing old and erecting new buildings have been effected, others being in progress, thus affording employment to many workers and adding completeness to his estate.

To return to the Plums. Stations are well prepared for the trees and planting is carefully done. They are securely staked, and bushed, *i.e.*, the stems protected with thorns or other sticks tied round them, against injury by sheep or rabbits, and for two or three years mulchings of manure take the place of grass to encourage free growth. This secured the grass is allowed to grow up to the stems, and sturdy, firm, fruitful wood follows in the firm soil. The trees are pruned after planting by shortening well back the long young branches, Mr. Smith being strongly opposed to waiting a year, with the consequent struggle for life the first season and some almost certain deaths, preferring a certain summer's growth of moderate extension, yet sturdy, for laying a good foundation in the trees. Those in a bearing state are also assisted from time to time by having the grass removed in a sufficient circle round them for admitting three or four barrowfuls of London manure. This is rammed down firmly and covered in spring and the grass again allowed to grow. It is soon trampled hard by the sheep, an increase of fibrous roots follows, and the trees improve in colour, make freer growth and afford finer fruit. The manure costs 5s. a ton delivered, then there is the labour, but the outlay is a profitable investment, in other words this work of culture pays or it would not be done.

The trees are pruned, or such as may need it, on simple and sensible lines. There is little, if any, shortening of the branches after the trees are formed, and severe thinning is never resorted to, for the sufficient reason that it is not necessary, as by timely action in removing a few branches, which if left would be inimical, any approach to overcrowding is averted. That is the whole secret of the matter—preventing an evil instead of suffering it to occur, then having a general slash to remove it. There is an enormous difference in the two methods as affecting the fruitfulness of trees, yet numbers of would-be fruit growers are provokingly slow to grasp the significance of this difference. Only a comparatively few appear to fully appreciate the importance of a thin disposal of the main branches of fruit trees; not by the removal of a number to relieve the crowding, but by the immeasurably better and easier way of never permitting anything approaching a thicket to occur. When a thicket does occur, thinning, though it should be done, can only be regarded as the lesser of two evils, the greater being the original mistake of rendering the work necessary. Among the thousands of fine young Plum trees under notice—trees varying from four or five to fifteen or twenty years of age, there are few that need more than five minutes spending on them in pruning, but this little time will be given instead of waiting till thrice the cutting out would be requisite; in the meantime serious, if not irretrievable injury, being done in limiting the fruit-producing power of the trees.

Some of the best varieties of Plums grown at Mentmore were named by Mr. Smith in his Chiswick paper. In the

plantation more particularly inspected, hundreds of trees of Green Gage were pictures of beauty in character and productiveness, as were Damsons. These are profitable for orchard culture when the fruit is good and fairly and honestly marketed. No matter how plentiful Plums may be and the market overlaid from the grower's point of view the consignments from Mentmore, however large, are bought up at once, because the large buyers know they are all the same right through the hulk, and that there is full measure, and no thick pads of straw ostensibly to prevent the fruit bruising, but really for something else. A great deal is said about market dues and salesmen's customs eating away profits from growers, but Mr. Smith has not a word to say against his treatment in Covent Garden, and he is one of the last men in the world that would submit to be treated unfairly. Damsons have been mentioned; four varieties are grown—the Kentish or Crittenden, small round, borne in clusters; the Shropshire, a little larger and somewhat oval; the Prune, very large, oval, tree somewhat spreading; and Worcestershire, also large and similarly shaped, tree more upright in growth. Bradley's King is not yet included in the collection, and those named give satisfaction. The trees are planted 22 feet apart.

Apples are also extensively grown, but those inspected were as bushes in the fine kitchen garden. Rows of Worcester Pearmain were aglow with scarlet fruit. Cox's Orange Pippin was bearing highly coloured fruit abundantly, as were other well-known useful varieties; but less known and deserving of special mention were Bismarck, clustered with magnificent fruit, and Seaton House (named Niton House), the hush trees being 1. Productiveness, and the fruit, which somewhat resembles Dumelow's Seedling, keeps till late in the spring. Lane's Prince Albert is a favourite here, and all over the district, because of its certainty in bearing full crops of fine and long-keeping fruit. Pears were less plentiful, but several trees were bearing well. Those of the favourite Marie Louise were failing, probably because worked on the Quince stock, and to insure healthy growth over a long period they must be on free stocks or double grafted.

A great deal could be written about other departments if the printers would wait, but they will not; the noble sweep of lawn, with fine trees and terrace; the magnificent view—a park-like panorama of thousands of acres, bounded by the distant Chilterns; the beautiful tropical garden and picturesque shrubbery recesses; the thrifty Conifers—Corsican Pines 60 feet high, one having to come down; the rapid growth of Wellingtonias raised from seed sown only fourteen years ago, and now 30 feet high, with stems 3 feet in circumference; the splendid vegetable crops, and so on; but whatever is omitted, the range of glass in the kitchen garden now in course of erection by Mr. Boyd must have mention. When completed it will extend some 600 feet, with a central dome. This is already up, as are spacious vineries, with Vines making a start for future fame. With all these features Mentmore is now a truly noble place, and when other improvements are carried out and the hundred acres of fruit trees in full bearing, as scores of acres now are, it will be necessary to travel far to find its equal, taking it all in all, in our fair and fertile country.

Whoever may visit Mentmore now and not be satisfied will be hard to please. Possibly there may be a floral enthusiast here and there who might like to see the fine lawn dotted with flower beds and thereby spoiled. That is not the place for them; but in another garden within view—Mr. Leopold de Rothschild's at Ascott—such a wealth of flowers may be witnessed as will not soon be forgotten. Truly gorgeous are the Begonias, and with golden Conifers in thousands, and almost all other flowers that can be thought of, also with shrubs of such shapes as could only be conceived by a Dutchman, we have in front of the quaint and picturesque mansion a scene which for brightness and diversity it would surely be difficult to match. Besides all this there is the glass, and perhaps ten thousand Carnations, which Mr. Jennings grows so well, as he undoubtedly manages well everything in this remarkable garden, which Mr. Smith describes as a "Paradise of flowers." It is mentioned because it was through his kindness that it was seen during a spare hour which was found after a quick inspection of his excellent work at Mentmore.—J. W.

NARCISSI—PLANTING OUT AND IN POTS.

THE season for planting has again returned, and should not be delayed much longer, as Narcissi are early, and many of them abundant, root-producers. It has been the experience of most growers of these useful and charming flowers that animal manures are prejudicial. That, I think, is a generally accepted fact. It is also a proved fact that a strong holding soil produces the finest foliage and bloom and some go so far as to say that a light dry soil

is not at all suitable for many of the finest sorts. I cannot confirm that statement, as I find with proper attention they succeed very well on just such a soil; and however poor the soil may be naturally, I should not hesitate to plant with every hope of the plants succeeding and improving year by year.

Groups of Narcissi are very charming in mixed borders and on grass. The Daffodil is *facile princeps* among bulbous plants. But in order to obtain the best results in the form of strong foliage and the largest flowers on long stalks it is by far the best plan to set apart a plot of ground in order to grow the collection. The ground must be deeply dug, or, preferably, double dug, and all lumps broken down in the process. If any dressing is given to the soil let it be leaf soil or the best portion of the compost heap, including the old soil in which Chrysanthemums have been grown. I have planted the bulbs as the digging progressed, and have also sown them like Beans in deep drills drawn with hoes, and so far as results go the one way proved as good as the other, while the last named has the advantage in being more expeditious.

The question as to how deep the bulbs ought to be planted depends somewhat on their size. From 3 to 6 inches deep is quite sufficient. I invariably find that the young bulbs push the older upwards, so that after three years' growth many of them are close to the surface of the soil. The deep planting of such sorts as *Poeticus ornatus* is, I think, distinctly inimical to the well-being of the plants. They do not flower so well, nor do they increase in the same ratio as shallow-planted bulbs.

The distance apart at which to plant must be guided by circumstances. Sir Watkin ought to be planted further apart than Emperor, because the former increases more rapidly and the growth is more robust, 6 inches for the former and 4 for the latter being a fair distance, with a foot between the rows. Then take the *Poeticus* family: *recurvus* increases so rapidly, and grows with such vigour, that from 6 to 8 inches is not too wide. The double form may go in at 5, while *ornatus* at 3 inches is not too wide.

The beds will require hoeing before September is out, and again in early spring. At a suitable period in April I give a slight dressing of superphosphate of lime, and I have found this to exert a wonderful influence on the plants. For the later sorts, if the weather is very dry at the end of April or early May, a soaking of water will be of the greatest benefit. During the summer and autumn months, hoeing and keeping the rows clean is all that is required; and in April, when growth has again progressed somewhat, another dressing of superphosphate or of fresh soot, or of sifted soil from the decayed compost heap, will be needed to keep the plants improving.

The present time is also the period for beginning the necessary work on the portion of the stock which it is intended to grow under glass. Narcissi are the easiest of all bulbs to grow in this way, and no flowering bulbs can surpass them for general usefulness. To insure success none but the best quality bulbs ought to be grown. I do not know that it matters so much as to size, but certainly the bulbs ought to be thoroughly well ripened by first of all lifting early and then allowing them to get well dried on the surface of the ground. These are points of supreme importance, the neglect of which no after good management can make up for. Any good open soil does to grow them in. The pots require to be well drained, as the plants like a good deal of water when in full growth. It is a decided mistake to allow them much root room. Three large Horsefieldi or Empress bulbs do well in a 4-inch pot, or five in a larger size. The bulbs will be at once touching the inside of the pot and each other. I have in one season grown many hundreds of common sorts in ordinary 4-inch deep cutting boxes, with each bulb touching its near neighbours, and nothing could be better than the result. I feed the plants well when they are in full growth, and keep them always moist at the root. Even such a stubborn sort as *poeticus recurvus* does excellently in this manner. Expensive varieties ought not to be forced hard. For instance, I would not force either Emperor, Empress, Horsefieldi, or Sir Watkin; but by bringing them on slowly there is no difficulty even in the north in having them in flower in March.

What to do with the plants after flowering may be a question of interest to many. I invariably plant them out. As a matter of fact, most of the plants are flowered in a greenhouse temperature, so that the change is not so very great; but some are occasionally forced in heat to the finishing of the flowering, and even these may be planted out with impunity. With valuable sorts I plant the whole potful out without breaking roots or ball. To do either causes a greater check than is necessary. The year succeeding the bloom is poor from these, but they rapidly improve thereafter under kindly treatment, and the third season the flowers are again at their best.—R. P. BROTHERSTON.



THE CULTURE OF ORCHIDS FOR CUTTING.

"L'ORCHIDOPHILE" contains some reflections on the subject of growing Orchids for cutting which those who imagine there is a fortune to be made out of the process might do well to inwardly digest. "A certain number of readers have asked us," it says, "if the culture of Orchids for cut flowers would be a good speculation for an amateur. We doubt it. All those who import have an interest in recommending it. Where would the thousands of plants that are placed on the market go to if, from time to time, an amateur could not be induced to embark in a speculation which has at least the merit of absorbing a large number of plants? All those who strive desperately to induce them to do so have only," our contemporary continues, "the sale of their plants in view. What does the failure of their client matter if they have realised some benefit themselves? All plants are good for cut flowers when the dealers have a large stock of them, and species are recommended for the purpose that are quite unsuitable. If a few amateurs have not realised benefits from cut flowers, but diminished their expenses a little, it is certainly not with the plants the importers have enumerated. It may be affirmed with certainty that a speculation based on the plants recommended by those interested in them would be disastrous.

"The sale of Orchid flowers is fairly active about Paris; several horticulturists grow plants for this purpose. Duval of Versailles has the most important cut flower establishment. All there is managed economically and practically. Well, we are convinced that he does not realise any benefit from cut flowers. At Paris the period of the sale extends from November to June. All which flower after are unsaleable. The sale during the season is not regular; one day the florists are disposed to pay absurdly high prices, the next they offer wretched ones. The sale of choice flowers is very uncertain; a great wedding will increase it 50 per cent. The amateur who cuts flowers under the impression that he is going to sell them is sure to be unsuccessful. How will he go about it? Will he go from shop to shop offering them, exposing himself to rebuffs? or will he employ an intermediary for this task? The flower is cut and it must be sold. The amateur will not know in what state the flowers have arrived, and we could cite among our subscribers many who have never received a halfpenny for what they sent. Either the flowers arrived badly packed, too late, or frozen, or the agent forgot to account for them.

"To have one agent for cut Orchids is not practicable. We have tried to sell flowers in Paris. We have offered them through an agent to florists in different parts. They paid a good price for those which they came to take from us, but they would not give anything for those which we offered to them. 'If we want Orchids,' they said to us, 'we know quite well where to find you.' The Orchids which sell well as cut flowers are not very numerous. Cattleya Trianae, C. Mendeli, early Mossiæ, labiata flowering in November or March, Odontoglossum crispum, and O. Pescatorei form the basis of the trade; the rest are only accessories. We repeat that in our humble opinion the amateur who sells flowers which he does not want may diminish his expenses; he who cultivates them for the purpose must be ranked as a tradesman, and sad to say there are not many who enrich themselves at the trade."

Our contemporary does not, it will be seen, think that Orchid growing for the sale of cut flowers is a paying speculation, and reflects severely on dealers in imported plants. Let us hope they are not quite so bad in England as they are represented to be in France.

STENOGLOTTIS LONGIFOLIA.

THIS is a lovely cool house Orchid, which appears to be little known or cultivated. It is a plant of considerable merit, easily grown, readily propagated by division, and lasts in flower for a couple of months. Early in the year when growth commences it should be potted, three growths in a large 60 or small 48-pot being sufficient. The compost should be peat, leaf soil, sphagnum, and a little cow manure. If placed at the warmest end of the cool house it will grow readily, and will commence to flower about August. The leaves are about 6 inches long, light green, the plants having somewhat the appearance of Disas. The spikes are erect, commencing to bloom 6 inches from the plant. The flowers are small

and produced in quantity, and are of a pretty bluish purple. The lip is fimbriated and spotted with dark purple. The spike continues to elongate and produce flowers for a considerable time, thus the plant is a good addition to any collection. It is a native of Natal, and requires to be kept drier after flowering than it is when in bloom until growth commences again. Several plants were recently flowering in the cool Orchid house at Kew, together with the smaller *S. fimbriata*.—C. K.

LÆLIA CRISPA.

FLOWERING early in the autumn as this plant does it is always a great favourite with Orchid growers, as it helps to fill up a kind of gap in the Orchid year. *Lælia crispa* has a history, and is consequently interesting on that score. It is a native of Brazil, and was introduced in 1826 by Sir Henry Chamberlain, who sent plants to the Royal Horticultural Society's Gardens at Chiswick. In 1827 it flowered for the first time in England, at the Chiswick Gardens, and was named by Dr. Lindley *Cattleya crispa*, under which name it is figured in the "Botanical Register," t. 1172, and the "Botanical Magazine," t. 3910. This charming *Lælia* grows at an elevation varying from 2000 feet to 3500 feet. The pseudo-bulbs are 8 to 12 inches high, bearing a stout solitary leaf nearly a foot in length; the spikes, carrying four to six



FIG. 29.—LÆLIA CRISPA SUPERBA.

flowers, rise from a yellowish green sheath. The sepals are white with revolute margins. The petals are broader than the sepals, white tinged with purple at their bases; margins wavy and crisped. The lip is very beautiful, three-lobed, the side lobes encircling the column, white marked with yellow and purple on the inside; centre lobe longer and reflexed, with a fine crisped and waved margin, deep red purple with dark purple veinings. The whole flower is about 5 inches in diameter. There are several fine varieties of *L. crispa*. A finely crisped variety was exhibited at the meeting of the R.H.S. at Westminster on August 9th by T. Statter, Esq., Stand Hall, Manchester, under the name of *L. crispa superba*. The lip, which was velvety purple shading to mauve, was beautifully crisped and fimbriated. Fig. 29 represents it.—C. K.

PROFITABLE USE OF WASTE LAND.

GARDEN ALLOTMENTS AT CARDIFF.

HAVING been called upon lately, in conjunction with Mr. Stephen Treseder, Pwllcoch, Cardiff, to adjudicate on some garden allotments in Cardiff, for the best cultivation of which prizes had been offered, a short statement may be of interest as showing what may be done under the powers of the Allotments Act. The

garden allotments, which are held and worked by labouring men, cannot be said to be as yet very numerous. They are situated in three separate districts of the town, in each of which the conditions are somewhat different. In one district, known as Cathays, the experiment has been made in a large field of good soil, leased by the Corporation from the Marquess of Bute, and re-let in allotments of 20 poles each to working men. The whole of the land available at present has been taken up. In the district of Canton and Grangetown the providing of allotments has been connected with another instructive experiment.

In Cardiff, as in other towns, the problem of how to dispose of house and road refuse has been the cause of much perplexity. Mr. Woosey, the Superintendent of the Scavenger Department of the Corporation, resolved to utilise it in making up patches of low-lying and comparatively valueless land, and letting it out for gardening purposes. In the Canton district the ground so used was a piece of common land belonging to the Corporation, and there the land is made up to the height of several feet by the cartage of house refuse, and covered over with road scrapings, and was let out in allotments of 20 or 40 poles to about forty labouring men, and has been found to answer the purpose very well, the ground being thoroughly cultivated and yielding excellent crops.

At Grangetown the Corporation had no land to put to use in this way, but they obtained Lord Windsor's consent to use about 3 or 4 acres of ground belonging to him near the river Ely, which lay so low that it was frequently covered by the tides. The conditions of the arrangement were that the Corporation should have the land for seven years for nothing, and at the end of that time it should revert to his Lordship. They at once proceeded to raise it level to the extent of 4 feet by a deposit of house refuse, which they covered over with a layer of road scrapings; and the land so formed they let out to some thirty labourers in allotments of 20 poles each. This ground has been cultivated by them for the last three years, and has been found most productive. On the occasion of my visit I found it covered with vegetables of splendid quality. Each tenant had stocked his ground according to his fancy. All of them had fine plots of Potatoes, Cabbage, Cauliflower, Onions, Turnips, and Carrots, while some had Peas, Broad Beans, Scarlet Runners, Marrows, Celery, and sweet herbs. One man had hundreds, aye, thousands, of young Orange plants from 2 to 3 inches high in his allotment, and as healthy as if they had been growing in their natural habitat. The ground was manured with decayed Oranges, the seeds germinated as freely as Oats, and the old man did not like to pull them out. In several cases the early crop of Potatoes were off, and the ground planted again with Broccoli, Savoys, and other crops. Nearly every plot was clean, tidy, well cultivated and manured; some of them had been remarkably well worked and kept. The cultivation and tending of the plants is done chiefly in the evenings, and the labourers who hold the allotments appear to take great interest in the work.

The rent paid for the allotments is 1s. per pole, or £8 per acre; and there cannot be a doubt that the holders not only provide themselves with abundance of good vegetables for their tables, but are able to sell a considerable quantity. While all the allotments were managed creditably, the best were those on the plot of made-up ground at Grangetown. It may be hoped that the Corporation will be able to secure some more of the low-lying land to turn to equally profitable account; and local authorities elsewhere, who have waste land in their neighbourhood, might take a hint from what is being done in Cardiff.—A. PETTIGREW, *Castle Gardens, Cardiff*.

SOME TROUBLESOME PLANTS.

THERE must be as much pleasure in making a troublesome plant grow as in taming a shrew (of the former only have I had experience), and so, when I hear of a troublesome plant worth growing, I get it, and with a little wheedling and coaxing, I stoop to conquer. May I tell you how it is done with *Heuchera sanguinea*, that disappointing and yet most beautiful plant? It blooms freely with me all the summer, and in May, with a profusion of strong straight shoots 2 to 3 feet long, it was a splendid sight, the envy of the florists about here who fail to induce it to flower. I obtained a plant the year Mr. Ware sent it out, and now it has a large progeny. I soon found that it was best to pull two-year-old clumps to pieces in the autumn and replant in heavyish rich soil, and in the growing season to give the plants an occasional dose of liquid manure. Plants that make poor growth, and have small leaves (a sign that they are starved) do not bloom. I am writing with the experience, and therefore with the impudence, of a beginner on hardy plants, so I crave the indulgence of those who know a "Deal" better than I do.

As to *Eremurus Bungei*, which was so much admired in my stand of thirty-six bunches at Chester, I do not think I shall find

any difficulty with it or with *E. himalaicus*, which Mr. Ware says truly is "one of the most majestic and beautiful of hardy plants," at least I find it so. My spike was about 6 feet long, with about 2 feet of creamy white flowers at the top, each flower nearly as large as a shilling. *E. robustus* is like it, rather stronger in growth, and with pale pink flowers. *E. Olga* I have, but cannot write about it, my plant, I imagine, being too young to reveal its capabilities. I do not know how many years these plants take to come to maturity, but the lowest priced ones will disappoint the purchaser who looks for bloom year after year, and finding none, will associate it with *Heuchera sanguinea*, and declare it a fraud.

There are two difficulties in the way of growing the *Eremuri*—subtraction from one's purse, and the attraction the plants have for the insidious slimy slug, which finds its way into the crown before it gets above the ground. My *E. robustus* was spoilt this year by this creature. I do not think as some do that moving them hurts them—the plants I mean, for my slugs are generally injured in removal. My plants did not bloom, though they made a feeble attempt to do so. They were rather exposed to winds, and this they cannot stand. I carefully uncovered their long fleshy roots last autumn, a difficult and nervous thing to do, for the roots strike deep and are long and brittle, and replanted them all in a spot sheltered from winds in good deep soil 4 feet at least, and they could not have done better. Autumn is the time for planting, now if possible.

Then, *Tropæolum speciosum* favours my righteous dealing in two places, one in the *Rhododendron* bed shaded from sun by a Laurel hedge; the other in front of a window (my wife's store-room window, so it does not matter). I never thought when planting that it would grow all over it and among the Ivy above and on the side. This faces east, and the south side of the house keeps the sun off for the greater part of the day. It seems to me that all it needs is shade, heavyish soil, and plenty of moisture.

Then, again, *Zauschneria californica* grew rampant in a sandy sunny border, blooming gloriously, till I thought to decorate my rockery with it, with more thought for the rockery, I am afraid, than my plant, and so it sulked. It wanted all the glory and all the sun it could get, and did not like to be put in the shade; but now it is happy again in the old sunny spot.

Aquilegia glandulosa has been in the same place, on the edge of my little bog garden, for some years, and does not deteriorate. It seems to like moisture and partial shade, the same as *Trillium grandiflorum*, its close neighbour.

I suppose no one finds a difficulty in growing *Ramondia pyrenaica alba* who has tried a stony bank or even on the level, provided it is kept moist and out of the sun. I have a nice lot of seedlings, but when will they bloom? Growing these must be like planting trees for one's successor. Ah! says my florist brother, how about *Gentiana verna*? Well, I have not got it to bloom yet. I have not had it long enough, but some day I shall report progress. I have learned and practised all that the Journal has told me, so it is thriving. Now you may grow anything if you go the right way about it, but this means patience, perseverance, and sometimes—my wife says "sometimes" is not the word for it—expense.

About judging herbaceous flowers I agree with Mr. Garnett that too many bunches or spikes of one variety weaken a stand, and only when they are quite distinct should they be included in the same collection, but they are admissible. The arranging, of course, is a matter of taste, but it must not be forgotten that it is an exhibition of flowers, not a table decoration. What more beautiful exhibition of cut flowers can there be than a stand of thirty-six bunches as shown by Mr. Burrell of Cambridge? There is this to be said in favour of Mr. Garnett's plan, in which he displays consummate taste, that you have not to denude your garden of flowers. In East Anglia the competition in these classes is very keen. A few years ago we used to wrangle and quarrel as to the interpretation of both "hardy" and "herbaceous," but the question seldom arises now, not because we have grown better tempers but because we grow flowers better, and in improving the one it follows, I hope, that the other must improve. At Diss we have classes for bunches and also a class for twenty-four hardy perennials, one or two spikes of each variety, and a very interesting and instructive class it is, but of course you don't get the grand mass of colour that you do with bunches.—F. PAGE ROBERTS, *Scole Rectory*.

JUDGING HERBACEOUS PLANTS.

I HAVE been interested in reading the articles on the above subject, as I think it is one requiring attention. In my opinion many mistakes and complaints arise from the word "herbaceous" not being thoroughly understood by many exhibitors; nor are some good judges of other garden produce capable of giving a satisfactory decision when judging

stands of herbaceous plants, because they have not cultivated them largely, therefore do not know if the blooms are annuals, biennials, perennials, bulbous, or strictly herbaceous. I have competed in a class for these flowers when the prize was awarded to a stand containing a bunch of shrubby Veronica, also a bunch of annuals, while my own and others which I considered were in accordance with the schedule, twelve bunches of herbaceous or perennial flowers, distinct kinds being required, were passed over.

I agree with Mr. Garnett that all exhibits should be staged so as to show the growth and habit as much as possible, and the names plainly written for the benefit of all concerned.

I would not allow more than one variety of any flower to be shown in the same stand; say if *Lilium auratum* was staged, all other Lilies should be excluded, and so on. If schedules were worded in the following manner I think the meaning would be plain to exhibitors, judges, and spectators:—"Twelve, twenty-four, or thirty-six, bunches of herbaceous, bulbous or perennial flowers, distinct kinds, flowering shrubs excluded."—DEVON.

JOTTINGS ABOUT LONDON PARKS.

WATERLOW PARK.

AMONG the many open spaces recently acquired by the London County Council the above park occupies a prominent position. It is situated on the heights of Highgate, a picturesque northern suburb of the metropolis, and is, perhaps, for its size the most beautiful lung of London. Although less than a year old, as a public park it has become the favourite resort of thousands of residents in the northern suburbs, and when better known it will probably be visited by even a larger number of people. The natural beauties of the park are, perhaps, unequalled around London, as it is situated in a neighbourhood which still retains a certain amount of rurality. The park, it may be of interest to mention, was the gift of Sir Sydney Waterlow to the London County Council, by whom it was opened in October last. At present it is some 30 acres in extent, a portion of which is occupied by fruit houses, an orchard, and what originally was a kitchen garden. The surface is beautifully undulated, and winding walks abound, these features adding considerably to the scenery. Apart from its present characteristics there is an historical feature of no mean interest connected with Waterlow Park. It was there where the famous Nell Gwynne resided. Although, as may be expected, the house is at present in a somewhat dilapidated condition, steps to restore the building are being taken, and a portion of it will be occupied by some of the park employés. There exist in the grounds the bath in which Nell Gwynne was accustomed to take her matutinal dive, also the foundations of her favourite summer house. These items are mentioned as likely to be of interest to the general public outside the gardening world.

What concerns us most here, however, are the horticultural features of the park. For many years prior to the place being opened as a public resort the grounds had been allowed to fall into a neglected condition, and consequently great things as regards making a fine display could not well be expected in the short space of less than a year. But the change has been wonderful. Under the able management of Mr. Richard Curle, the Superintendent, vast improvements have been made. The twenty years' experience Mr. Curle had at Sefton Park, Liverpool, are well brought out in the present instance. He must have worked hard and assiduously. Those who have not seen the park since it was first opened could scarcely realise the improvements made. There are no series of elaborate stereotyped beds such as one is accustomed to see in many public parks, but a wonderful variety of flowers, fruit, and shrubs that cannot fail to interest the most careless visitor.

On entering the park from the Highgate side, near the famed St. Joseph's Retreat, the eye is at once attracted by a remarkably fine bank of flowers. A better display could scarcely be seen anywhere. The border is of a winding character, rather steep, about 30 or more feet wide, and perhaps 100 yards long, the back being well planted with trees and shrubs. In the rear patches of African Marigolds, Dahlias, annual Chrysanthemums, Zinnias, Tobacco plants, and various annuals are most effective, whilst the front portion is occupied by rows of John Roberts Fuchsia (very fine and free flowering), variegated Pelargoniums, dark-leaved Beet, Pyrethrum, and blue Lobelia, the two last-named being planted in the form of a triangle. A plant of *Cineraria maritima* is dotted in the centre of each patch of Lobelia, and a dark-leaved Beet in every triangle of Golden Feather, the effect being exceedingly good. On the opposite side to the above-mentioned bank is another similarly planted, and there are many other borders equally effective. On a terrace near the old house already alluded to there is a magnificent bed of Fuchsias, and close by a remarkably fine specimen of the Maidenhair Thorn (*Crataegus oxyacantha pteridifolia*). The mixed system of bedding, now so fashionable in public gardens, is much favoured in Waterlow Park, and some excellent arrangements may be seen there. These beds are always bright, informal, and never fail to please the most fastidious tastes. Specimens of Yuccas, Palms, Eucalyptus, and other plants are dotted on the grass, but owing to the exposed position many of them suffered severely through the rough winds which prevailed last week.

Not the least important feature in Waterlow Park are the herbaceous borders, situated in the original kitchen garden, but now being utilised for the production of spring-flowering plants. Mr. Curle obviously recognises the fact that hardy flowers have a future, and with that object in view he has established the borders mentioned. These are now gay with numerous flowers, and will remain so until late in the

autumn. Huge clumps of perennial Sunflowers, masses of Brompton and East Lothian Stocks, *Anemone japonica* and its white variety, *Sedum spectabile*, *Pyrethrum uliginosum*, and numerous other plants are now flowering profusely, making a feature not often seen in a public park. It is specially gratifying to note this fact, and it is to be hoped that the London County Council will continue the good work begun, and make the borders of hardy plants a notable feature in this and other parks.

Still another interesting and uncommon feature in Waterlow Park remains to be chronicled—namely, the fruit trees and vineries. There are many Apple and Pear trees, the majority of them now carrying an excellent crop of fruit. The whole of this is given to various hospitals and infirmaries, no less than 130 pecks of Pears, besides Apples and Grapes, being disposed of last year in this manner. Among the recipients of such produce last year were the Children's Convalescent Home, Highgate; St. Pancras Workhouse Infirmary, Great Northern Hospital, Temperance Hospital, Hampstead Road; North-Western Hospital, University College Hospital, and Holborn Union Infirmary. What could be more satisfactory? Could not a portion of other open public spaces be similarly utilised? Several vineries containing Black Hamburgh, White Hamburgh, Lady Downe's, and Muscat of Alexandria, all carrying a good crop of medium-sized bunches, are also noticeable, and attract considerable attention. An estimate, however, is now being placed before a Committee of the Council to make various alterations in the vineries, and turn them into a large show house, for which purpose they are admirably adapted.

Chrysanthemums are likewise to be a feature in Waterlow Park. There are some 1500 plants now receiving close attention, and all are looking the picture of health, so a fine display may be anticipated in the course of a few weeks. It may be of interest to add that a splendid view of the metropolis, possibly one of the best available, can be obtained from a portion of the grounds in Waterlow Park.—C. C.

ROYAL HORTICULTURAL SOCIETY.

SEPTEMBER 6TH.

THE fact of the holiday season being in progress did not militate so severely against the present gathering as to deprive it of all interest; on the contrary, there was an extensive display of excellent fruit, several varied and brilliant exhibits of Orchids, a good collection of Gladioli, and several groups of hardy flowers.

FRUIT COMMITTEE.—Present: P. Crowley, Esq. (in the chair), with Dr. Hogg, and Messrs. Harrison Weir, J. Cheal, G. Taber, W. Warren, A. Dean, W. Bates, W. H. Divers, G. Norman, H. Balderson, G. Wythes, G. Sage, G. Reynolds, H. J. Pearson, J. T. Saltmarsh, G. Bunyard, J. Hudson, T. Francis Rivers, and J. Wright.

A very fine display of fruit was arranged on the side tables, notably by Messrs. G. Bunyard & Co., whose Apples were remarkable in size and appearance. Mr. W. H. Divers also had a notable collection of Peaches and Nectarines, and Mr. W. Miller, Ruxley Lodge, exhibited a miscellaneous collection of considerable merit.

Mr. W. Palmer, Junction Road, Andover, sent fruits of Triumph × Hero of Locking Melons, but of no particular merit and therefore passed. Mr. W. Weir, Acton Park Gardens, Wrexham, sent a good bunch of a large black Grape raised from seed received from the Cape of Good Hope, and therefore named by him the Cape Muscat. It is a variety of promise, some of the ripe berries possessing Muscat flavour, and the Committee desired to see it again later in the season.

Mr. E. Burnand, Woodcote Road, Wallington, sent a dish of small Tomatoes named "Sabine's Choice." It appeared to be the ordinary Peach Tomato, and no award was made. Mr. Robert Owen, Castle Nursery, Maidenhead, sent six fruits of a large Tomato named Ponderosa, but the colour—a dingy crimson—was not approved, and no award was proposed for the variety. Mr. R. Dean sent from Ealing a fine bunch of Conference Tomato, rich in colour and good in quality, and a vote of thanks was accorded. J. Bucknall, Esq. (gardener, Mr. W. Wright), sent a box of large Sea Eagle Peaches, for which a cultural commendation was awarded. Mr. G. Wythes sent a dish of large fruit of Pond's Seedling Plums gathered from a standard tree. They were very good indeed, and a vote of thanks was entered for them. Mr. Cooper, Lewis Road Nursery, Brighton, sent a seedling Apple, but of no special merit, and it was passed. Mr. J. Bowerman, Hackwood Park, sent fruits of Owen's Seedling Apple, medium sized, fairly coloured, but soft, and no award was made. Mr. R. Dean sent a dish of Lord Grosvenor Apple from a small bush tree (vote of thanks). Mr. Harrison Weir sent Duchess of Oldenburg Apples to show the change that had resulted from grafting. This was so complete that there was not the remotest resemblance to the Duchess in either of the fruits. The ease appeared to be regarded as a phenomenon, and was relegated to the Scientific Committee.

Mr. Bunyard placed fine looking fruits of Lady Sudeley Apple on the table for testing the quality. They were good, but not equal to Irish Peach, and only kept for a short time in good condition (vote of thanks). Major Thornhill, Stanton-in-Peak, Bakewell, sent a new Pea of good appearance, and it was referred to Chiswick for trial. Mr. Wythes exhibited a dish of Veitch's Success Pea, evidently a productive variety, for a certificate, as the variety had received three marks in the Chiswick trials. After a good deal of discussion a certificate was granted, whereupon Mr. G. Bunyard placed a dish of fine Scarlet Runner Beans on the table for a certificate on similar grounds, but this was not

granted. Surely the time to grant, or at least recommend, certificates, is when the crops are growing in the Gardens, as they are inspected when in the best condition.

Mr. W. H. Divers sent a collection of ten dishes of Peaches and six of Nectarines, very fair and mostly well coloured fruits, and a silver medal was unanimously recommended. The varieties were of Peaches Prince of Wales, Sea Eagle, Bellegarde, Violette Hâtive, Crimson Galande, Lord Palmerston, Princess of Wales, Barrington, Dymond, and A Bee. Nectarines: Dryden, Lord Napier, Rivers' Large Elruge, Pine-apple, Spencer, and Prince of Orange.

Messrs. George Bunyard & Co. exhibited seventy-five dishes of Apples, including twelve baskets; also Pears, Peaches, and Plums. Among the Apples, very fine indeed were Duchess of Oldenburg, Grenadier (extra), Potts' Seedling, Lady Sudeley, Golden Spire, Ecklinville, Worcester Pearmain, Stirling Castle, Lord Suffield, Domino, Washington, Peasgood's Nonesuch, New Hawthornden, Warner's King, and richly coloured Bismarck. A silver-gilt medal was unanimously recommended.

Mr. J. Miller, gardener to Lord Foley, Ruxley Lodge, staged twenty dishes of fruit, including Grapes, Melons, Peaches, Nectarines, and Figs, all in good condition; a silver medal was recommended.

Messrs. J. Cheal & Son sent a collection of ornamental Crabs, including John Downie, Dartmouth, Transcendant, Yellow Siberian, and others. A vote of thanks was accorded. A large collection of Kidney Beans was brought from Chiswick.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair), Messrs. B. Wynne, D. P. Laird, R. Dean, H. Herbst, C. T. Druery, G. Phippen, H. B. May, G. Gordon, N. Davis, C. J. Salter, C. E. Pearson, J. Bennett Poë, W. Goldring, J. Fraser, and W. H. Williams.

Hardy flowers were the principal exhibits brought before this Committee. Messrs. Kelway & Sons, Langport, staged a splendid collection of Gladioli, comprising about 120 spikes. These, as usual, were remarkably fine and bright in colour. Two were adjudged awards of merit, and are referred to below (silver Flora medal).

Messrs. W. Cutbush & Sons, Highgate, had a large collection of hardy flowers, bright and fresh in appearance (bronze Flora medal). *Helianthus multiflorus*, *Corcopsis lanceolata*, *Chrysanthemum latifolium*, and *Geum coccineum plenum* were good in this contribution. A large number of *Liliums* and other hardy flowers shown by Messrs. Pitcher and Manda, The United States Nursery, Hextable, Swanley, also attracted attention, and a silver Banksian medal was recommended.

The *Liliums* were very fine, especially *Batemanæ* and *auratum macranthum*. Bunches of a pure white *Phlox* named The Pearl were particularly good in this exhibit. This is apparently a useful variety for cutting. A white Japanese *Chrysanthemum* named Sydenham White was shown by Messrs. Pitcher & Manda, but was passed by the Committee. Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, showed a plant of *Retinospora squarrosa*, and another of *R. s. sulphurea*, both dwarf dense-growing kinds. Three baskets of *Clerodendron trichotomum*, a hardy shrub, and a number of blooms of *Bignonia grandiflora* were also shown by Messrs. Veitch & Sons. A collection of *Helianthus* from the gardens of the Royal Horticultural Society at Chiswick made a bright display. Among these *H. multiflorus* var. *plenus*, *H. m.* var. *Peter Barr* (a bright single flowered variety), and *H. m.* var. *Soleil d'Or* were exceedingly good.

Messrs. Cannell & Sons, Swanley, sent a box of *Begonia* blooms to show their adaptability for buttonholes and other decorative purposes. The varieties shown were the pink Rosebud, and Octavie, a beautiful double white. Four well grown Cockseombs were also shown by Messrs. Cannell & Sons, these being the best we have seen for some time. Mr. R. Dean, Ranelagh Road, Ealing, staged a collection of French and African Marigolds, quilled Asters, Zinnias, and other hardy flowers. A bronze Banksian medal was recommended. A box of new Cactus Dahlias was shown by Messrs. Keynes, Williams & Co., Salisbury, the blooms being fresh and bright. Several were adjudged awards of merit and are referred to below. Messrs. J. R. Pearson & Sons, Chilwell, had blooms of a new Marigold named Prince of Orange, and Mr. C. W. Allen, Floral Park, New York, staged three spikes of a *Canna* designated "Star of '91." The latter was adjudged an award of merit and is mentioned elsewhere. Some seedling *Phloxes* and Dahlias were shown by Mr. J. Farquharson, and blooms of a seedling *Begonia* were sent by Mr. W. Smythe, Basing Park Gardens, Hants. Sprays of a hybrid *Passiflora* named Woodhatch Hybrid were staged by T. B. Haywood, Esq., Woodhatch Lodge, Reigate, but did not appear to be specially noticed by the Committee. Messrs. H. Low & Co., Clapton, exhibited a group of *Lilium Wallicianum superbum*, and a silver Banksian medal was recommended. This is a very fine Lily, strongly scented, sulphur yellow in colour.

ORCHID COMMITTEE.—Present: Dr. Masters (in the chair); Messrs. Jas. O'Brien, H. M. Pollett, H. Ballantyne, W. H. White, C. Pilcher, Edward Handley, E. Hill, T. B. Haywood, and F. Sander.

Mr. S. Kerslake, gardener to the Rev. E. Handley, Bath, sent a beautifully flowered plant of *Dendrobium Phalaenopsis Schröderiana* and another of *D. P. Statteriana*. The former was in a small pan, and bore a spike carrying twenty-three flowers; the latter, a darker variety, being in a small basket, and bearing several spikes. Both merited the cultural commendations awarded. W. E. B. Farnham, Esq., Loughborough, exhibited a large and handsome group of Orchids, in which *Dendrobium Phalaenopsis Schröderiana* in several shades of colour and *D. formosum giganteum* were conspicuous. The latter was also represented by more than one shade, in some the narrow white lip being

coloured with orange, in others with pale yellow; the sepals and petals are pure white. The variety is a very attractive one, and the plants shown were remarkably healthy and vigorous specimens in 5-inch pots. A silver Flora medal was awarded.

Messrs. Sander & Co. contributed a large and very varied collection, well representing the extensive and rich stores at their command. Amongst the *Cypripediums* were *hybridum Youngianum*, *h. polystigmaticum*, *h. Mrs. G. D. Owen*, *Fournierianum*, *Maynardi*, and *Chamberlainianum*. *Odontoglossum Harryanum* was in beautiful condition. Of *Catasetum purum* there were several plants. *Cynoches chlorochilum* (the Swan Orchid) bore three growths, the largest having a spike with five of its large singular yellow flowers with green suffusion. The beautiful little *Vanda Kimballiana*, with its dark leafage and delicate flowers, was noteworthy, and there was a splendid batch of *V. Sanderiana*, figured in the *Journal* of June 23rd this year. A splendid piece of *V. coerulea* was also observable. Besides these there were *Cattleya Harrisoniæ*, *C. maxima peruviana*, *C. Gaskelliana*, *C. Schofieldiana*, *C. speciosissima*, *Angraecum articulatum*, *Dendrobium bigibbum*, *Oncidium dasystyle*, and several others. A silver-gilt Flora medal was awarded. Mr. R. Johnson, gardener to T. Statter, Esq., Stand Hall, Manchester, sent *Cattleya Amesiana*, *Laelia Turneri superbissima*, referred to below, and the Stand Hall variety of *Cattleya Schröderiana*. From Messrs. Pitcher & Manda, Hextable, Swanley, came several strong plants of *Oncidium incurvum*, bearing numerous spikes of blooms, several *Cypripediums*, such as *œnanthum*, *Arthurianum*, *grande atratum*, *tonsum*, and *Harrisianum* *Pitcherianum*, *Dendrobium Deari*, *Cattleya maxima*, *Oncidium Papilio*, *Epidendrum Brassævolæ*, and many others. A silver Banksian medal was recommended. Mr. P. McArthur, 4, Maida Vale, received a vote of thanks for a small collection, which embraced *Cypripediums* *Ashburtoniæ* and *Harrisianum*, *Cattleya Harrisonæ* and *C. Leopoldi*. Sir Trevor Lawrence, Bart., Burford Lodge, Dorking (grower, Mr. White), sent a large pan of *Miltonia Morelliana*, a form with a rosy lilac lip veined with crimson, and deep purplish maroon petals and sepals. He also sent a basket of *Habenaria militaris* a yard across, containing nearly thirty spikes of its brilliant scarlet flowers. A vote of thanks was accorded. Messrs. Hugh Low & Co. sent three freely flowered plants of *Vanda Kimballiana*, also *Cypripedium Parishii*. L'Horticulture Internationale (M.M. Linden), Brussels, contributed *Aerides Augustianum*, referred to below; *Cattleya Acklandiæ magnifica*, *C. A. zebrina*, and *C. A. superba*. All three were distinct and fine. A vote of thanks was accorded. Stanley G. Lutwyche, Esq., Oakfield, Eden Park, Beckenham (gardener, Mr. May), sent a large plant in bloom of *Peristeria elata*. Messrs. Veitch & Sons were represented by *Cypripedium H. Ballantine*, a hybrid between *C. Fairieanum* and *C. purpuratum*; *Sophro-Cattleya Veitchi*, referred to below; and *Lælio-Cattleya Proserpine*, a hybrid between *Cattleya velutina* and *Lælia pumila Dayiana*. Baron Schröder, The Dell, Egham (grower, Mr. Ballantine), sent *Phaius maculato-grandiflorus*, a hybrid between *P. maculata* and *P. grandifolius*, very striking in colour, and a vote of thanks was accorded.

In the afternoon Mr. G. Bunyard read a paper on root-pruning, a subject with which, as a cultivator of great experience, he is well qualified to deal. His paper was of a thoroughly practical character, and was listened to with much interest.

CERTIFICATES AND AWARDS.

Cattleya Oweniana (Sander & Co.).—This is a noble *Cattleya*, the flower being of imposing size, and of rich unique colouring. In general expression it reminds one of *C. gigas*, particularly in the form of the long, broad-based, somewhat flattened lip, with the narrowing side wings, which close without folding. The apical half of the lip is rich velvety crimson, the basal portion and side lobes being deeply veined with gold. It is said to be a species introduced from the *gigas* habitat, and might be regarded as a natural hybrid between that species and *C. aurea*. It resembles *C. gigas* in growth (first-class certificate).

Cattleya speciosissima var. *Sanderiana* (W. R. Lea, Esq.).—This is an extremely beautiful white form of *C. speciosissima*, resembling the species in growth and in the form of the flower; but it is of the purest white alike in petals, sepals, and lip, the only colouring being a tinge of lemon in the throat. It is a lovely flower, and evoked equal interest and admiration (first-class certificate).

Sophro-Cattleya Veitchi.—This is a remarkable hybrid obtained by crossing *Lælia* (*Lælio-Cattleya*) *elegans* variety with *Sophranitis grandiflora*. The flower strikingly shows the points of both parents, having the form of the *Lælia* with the rich colour of the *Sophranitis*, the shade being a brilliant rosy earmine, the lip deeper, inclining to magenta, and the throat tinged with yellow (first-class certificate).

Lælia Turneri superbissima (T. Statter, Esq.).—A very richly coloured form. The sepals and petals are deep rosy mauve, the lip rich, lustrous, velvety crimson (award of merit).

Aerides Augustianum (M. M. Linden, L'Horticulture Internationale).—A distinct and attractive species with long spikes of delicate pink flowers, distinct, and pure in tone (award of merit).

Dahlia Kaiserine (Keynes, Williams & Co.).—A fine bloom of the Cactus type, sulphur yellow in colour (award of merit).

Dahlia Bertha Mawley (Keynes, Williams & Co.).—This is a valuable acquisition to the Cactus class. The blooms are of medium size, good form, and bright cochineal colour (award of merit).

Dahlia Countess of Radnor (Keynes, Williams & Co.).—A Cactus Dahlia of a pinkish colour, tinged with magenta, the base of the florets being sulphur yellow (award of merit).

Dahlia Mrs. Basham (Keynes, Williams & Co.).—A neat flower of the Cactus type, and somewhat similar in colour to Countess of Radnor, already described (award of merit).

Canna Star of '91 (C. L. Allen, New York).—This is a fine variety, with bright orange-scarlet flowers of large size (award of merit).

Gladiolus Poetis (Kelway & Sons).—A light coloured variety, the edge of the flowers being tinged with pink. The lip sulphur yellow, striped with pink (award of merit).

Gladiolus Numa (Kelway & Son).—An exceedingly pretty variety. The flowers are large, light coloured, with a deep magenta edge running well into the petals (award of merit).

Pea Veitch's Success (Mr. G. Wythes).—Large scimitar-shaped pods, some containing ten peas (first-class certificate).

STRAWBERRIES AND SHEEP.

It may seem strange to utilise a flock of sheep for the removal of superfluous foliage and runners from Strawberries and to clear the ground of weeds in the autumn or at the usual time. Nevertheless this is now being done in the Strawberry fields in this neighbourhood, where many acres are under Strawberry cultivation. About three weeks since a flock of sheep was penned—not allowed to stray all over the field—on the Strawberries, with the result that in a few days not a vestige of greenery was to be seen, the sheep having nibbled every scrap of green leaf off the plants beside clearing the ground of weeds. Since then the plants have pushed forth new leaves in abundance, the field looking quite green again. The new leaves will be quite large enough to afford that protection to the crowns of the plants which is considered to be necessary for a winter coating. The plan is only another way of clearing the plants instead of mowing the whole over, as is sometimes practised with good effect by cultivators.

The land being light the treading of the soil by the sheep will do more good than harm, and by their aid manure is given to the land at the same time. Where a quantity of Strawberries are grown, as in this neighbourhood, the plan adopted is a good one, not only as a saving of labour but from a utilitarian point of view also. Certainly I never saw a Strawberry field look more promising at this season than the one in question. Had the cleaning not taken place until a month hence it might not have resulted so favourably, as sufficient time would not have been available for the maturation of the new leaves, upon which the plants are wholly dependent for their protection during the winter. Diverse opinions exist amongst Strawberry cultivators as to the wisdom of a total removal of the old leaves at the annual clearing of the plants after each crop, some holding with a total clearance, while others believe only in a partial cutting away. The present being a seasonable time for such work, perhaps others may have something to say on the subject.—E. M., *Bishops Waltham*.

NOTES ON COMPTON VERNEY.

On looking round the gardens at Compton Verney the other day Mr. Garner pointed with pride to a grand bed of Onions which was something to be proud of. A very large breadth had been devoted to this useful crop, which was as even as it well could be; the individual bulbs, too, were remarkably fine, and showed unmistakeable evidence of high culture. The variety grown is Veitch's Maincrop, which Mr. Garner considers the best for his purpose. He also attributes his success in a great measure to timely thinning when the plants are in a very young state.

The flower garden at the same place was as usual in perfect order and good keeping. The beds are just now looking at their best. In this department it was a pleasure to notice that no one style of bedding is allowed to predominate at the expense of another. Carpet beds are there, beds of Pelargoniums and Begonias, as well as others of Violas, Gladioli, and Marguerites, so that in every part there is something to attract attention beyond that seen at the first glance.

Chrysanthemums, which are largely grown for decorative purposes, both as bushes and on the single stem system, are in excellent condition, and will doubtless make a splendid show during the dull days of November.

In the vineries Madresfield Court and Black Alicante Grapes were good, the former though not large in bunch being perfectly coloured, and the latter fine in every respect; although it may seem to many somewhat early to have Alicante ripe. They are much prized for use in a few weeks' time, and when ripened thus early the flavour is decidedly better than when the ripening is not completed till the end of September.—H. DUNKIN.

ROELLA CILIATA.

THIS plant is a member of a small genus belonging to the Campanulaceæ, the chief characteristic being derived from the capsule,

which is elongated and two-celled, opening by a hole in the apex. The species shown in the engraving (fig. 30) is a beautiful but somewhat delicate plant, and requires care and attention to grow it satisfactorily. It is well deserving the attention of all plant-growers. Pot in good fibry peat, adding about a third of sand, and if some pieces of sandstone or charcoal are introduced they will serve to keep the soil more open and greatly benefit the plant. Special care must be given to the drainage, not so much as regards quantity as in the matter of covering, in order to prevent the soil running into it and stopping the free percolation of the water; for although the plants enjoy a liberal supply of water, they cannot suffer the slightest stagnation, for when this comes about, either at the roots or in the atmosphere, its greatest bane, mildew, is sure to make its appearance. By no means stimulate the plants

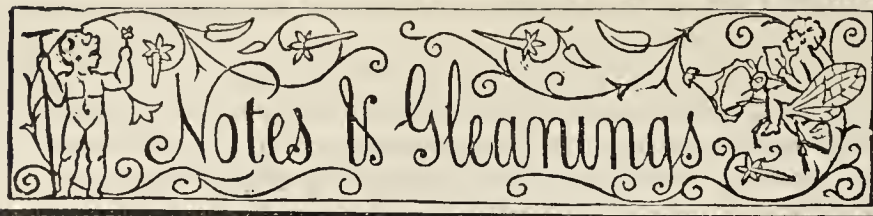


FIG. 30.—ROELLA CILIATA.

during winter, but have the growths well ripened in autumn, and the plants will pass through the dull season in good condition. The growths made in winter are always weak and miserable. A dry atmosphere with a free circulation of air is requisite for the health of the plants and the prevention of mildew.

Roella ciliata is a slender-growing, much-branched, greenhouse shrub, attaining a height of some 2 or 3 feet. Leaves Heath-like and light green. There are five distinct colours in the flowers, which, being disposed in rings or circles, produce a striking effect. The base of the corolla is yellowish white; succeeding this is a circle of deep bluish black; above this comes another circle of lavender blue succeeded by a narrow ring of white, whilst the spreading lobes are pale purple.

It blooms during May, June, and July, and is a native of the Cape of Good Hope.



EVENTS OF THE WEEK.—One or two of the Shows which commenced on Wednesday are continued to-day (September 8th); for instance, that of the National Chrysanthemum Society at the Royal Aquarium, Westminster, and that of the Royal Caledonian Horticultural Society, Edinburgh. Shows will also be held to-day at Paisley and Thame. On Friday, September 9th, an Exhibition of autumn flowers opens at the International Horticultural Exhibition, and will be continued on the following day. On Saturday, September 10th, there will be a Show of early Chrysanthemums and Dahlias at Leicester. On Wednesday, September 14th, the Kelso Horticultural Society's Show will be held. Several auction sales will be conducted by Messrs. Protheroe & Morris, of which particulars are given in the advertisements.

— **THE WEATHER IN LONDON.**—Colder weather has been experienced since our last note was written, although dry on the whole. On the 4th a strong wind prevailed, and the weather, though bright, was very cold. The 5th opened cold and somewhat foggy, but bright sunshine later on rendered the surroundings warmer and clearer. On the 6th the same conditions prevailed. At the time of going to press the wind is westerly, the glass somewhat depressed, and rain threatening.

— **ROCK PLANTS AT CHISWICK.**—The Royal Gardens, Kew, have made a munificent donation to the Royal Horticultural Society of upwards of 200 named plants for the rockery at Chiswick. Now that the public taste has set in in this direction this gift is particularly acceptable.

— **PEACHES AND NECTARINES AT CHISWICK.**—The outdoor Peaches and Nectarines in the Royal Horticultural Society's Gardens at Chiswick are now a splendid sight. The trees are trained to a south wall, and amongst the varieties carrying good crops are Frogmore Golden, Stirling Castle, Salwey, Violette Hâtive (particularly fine), Goshawk, Gregory's Late, Early Louise, and Prince of Wales.

— **APPLE BARCHARD'S SEEDLING.**—This comparatively little-grown Apple is well worthy of an extended trial. In a large Kentish orchard some young trees promise remarkably well, for the variety comes into bearing very early, and gives good crops of handsome fruit. Some trees at Chiswick are carrying a heavy crop of the conical fruits, which are deeply flushed with crimson. It appears to bear the most freely towards the tips of young shoots, and close spurring should therefore be avoided.—P.

— **TELEKIA SPECIOSISSIMA.**—This fine perennial, sometimes known under the name of Bupthalmum, will succeed equally as well in the open border as it will in the shade, providing it has plenty of space and fairly good soil, indeed that is a necessity to bring out the true characteristics of both foliage and flowers. This hardy plant is a suitable object for growing on grass in an isolated position where the beauty of its bold foliage is seen, and it can have space to develop fully.—E. M.

— **STEPHANOTIS FRUITING.**—I have at present a fruit of Stephanotis which first showed itself twelve months ago last July, and is now ripe. It measures in length, from stalk to point, 5 inches, and is 7½ inches in circumference at the thickest part; it is exactly the shape of an egg. Is it not rather an unusual size? I have shown it to several gardeners, but some have never seen a fruit before, and others only very small ones. Perhaps some of your readers may be able to enlighten us with regard to it.—C. E.

— **DUNDEE FLOWER SHOW.**—The Dundee Horticultural Society's Show at Magdalen Green opened under favourable conditions. Throughout the day it was largely patronised. In the forenoon, owing to the unsettled nature of the weather—which was showery, gusty, and cold—the visitors were comparatively few in number; but in the afternoon, when the atmospheric conditions had hardened somewhat, the enclosure rapidly filled up. The throng, however, reached its largest dimensions in the evening. The Exhibition was an excellent one in every way.

— **EDUCATION IN GARDENING.**—For essays on the above subject one of the silver medals of the *Journal of Horticulture* has been adjudged to Mr. Thomas Garnet, St. John's, Wakefield, and one to Mr. E. D. Smith, Walkley, Sheffield. These essays will be published in our columns in due time.

— **DOUBLE ZINNIAS.**—Mr. Turton of Maiden Erleigh showed at Reading one of the finest formed lots of double Zinnia flowers I have seen. The blooms were not only of perfect form, but were very large. I saw the plants from which these flowers were gathered the following day growing on a south border in the kitchen garden at Maiden Erleigh. There were several hundreds of plants from Messrs. Sutton & Sons' strain; not one had single or inferior blooms, and in variety and colouring they were wondrously beautiful. Mr. Turton plants out after early Potatoes from small pots. He finds the finest blooms come from crown flowers as a rule, but the side branches also give good ones.—A. D.

— **BARON SCHRÖDER'S BARONETCY.**—We are for once glad—in fact very much delighted—in having been led from the line of strict accuracy. We had a paragraph in type announcing the well merited honour conferred by Her Majesty on the great patron of horticulture, Baron Schröder of Egham, but it was withdrawn in consequence of information received from a source which we could not treat otherwise than reliable; and the same information was presumably supplied to at least one of our contemporaries, which made no comment on the subject. We have authority for stating that the popular Baron, as the head of his family, must retain his German title, and he will be known, as heretofore, as Baron Schröder.

— **THE SHREWSBURY HORTICULTURAL FÊTE.**—Phenomenal success attended the August Exhibition, the revenue from all sources amounting to the great sum of £3700 for a two-days Exhibition. The weather was good on the first day, threatening until past mid-day on the second, then clearing off to fine, and 40,000 persons paid at the gates. With the holders of about £700 worth of tickets previously, and subscribers and assistants, not less than 53,000 persons were present on the second day. There was no hitch, and all went well. The judging was done in good time, and the arrangements were good; but Messrs. Adnitt and Naunton, the Hon. Secretaries, with their eighteen years' experience, know how to manage these big shows.

— **FLOWER SHOW TROUBLES.**—We had the pleasure of seeing the wonderful Black Country Show at Bilston, near Wolverhampton, last year, for wonderful it is, and we are informed that this year the record was beaten by a display of very superior excellence all round. The Judges, six in number, who always act there, unanimously declaring it to be the best in quality of the twelve which have been held. But troubles of a very serious character awaited the Committee during the night of the opening day, for a severe thunderstorm with such an accompaniment of lightning as we rarely see, followed by a terrific gale, blew down one large tent and played sad havoc with the exhibits, and one side of another very large tent was blown in and the exhibits sadly injured. A few days after, at a large Exhibition at the Moseley Botanic Gardens, Birmingham, a fierce and protracted gale tried hard to blow down a large tent 250 feet long, and but for extra strong ropes, tent pegs, and watching night and day it would have gone, but fortunately no damage was done.

— **DESTRUCTION OF INSECTS BY OIL.**—Insects generally breathe through special pores in various parts of their body, and if these pores are closed by oil they are suffocated. Anyone may test this by dropping sweet oil on the thorax or back of a wasp; it very soon dies. For this reason oil has been found one of the best things to use for the destruction of insects. Unfortunately it is difficult to spread it properly over plants. At one time oil was spread on with water, and the syringe made to draw up a little water and oil together as the syringe was taken from the vessel containing the liquid, but this has never had a great deal of practical value. It is not generally known, at least it was left to a correspondent of the "Gardeners' Monthly," Mr. A. D. Brown of Princeton, N.J., several years ago to show that by the use of chalk or soap, or other substances, oil and water could be made to amalgamate, and in this way make a safe and effectual wash, although it still has to be stirred up continually while being applied. A wineglassful of oil to a gallon of hot water, with about one-half a glassful of soft soap mixed together, will make a wash of this kind. There is nothing better than this for scale on Lemon trees, Oleanders, and indeed, by the aid of a fine syringe, on almost any insect-infested plant.—("Meehan's Monthly.")

— LEIGHTON BUZZARD FLOWER SHOW.—For once the Committee of the Leighton Horticultural Society succeeded in fixing upon a fine day for their annual Show, and as a consequence there was a good attendance during the afternoon. The Show was above the average, splendid exhibits being contributed by Mr. Cypher, Mr. Finch, and Mr. Walker of Thame.

— A GIANT CACTUS.—An effort is being made to secure for exhibition in the Horticultural Department of the World's Fair a specimen of giant Cactus from the desert region of south-east California. This Cactus grows at times to the height of 70 feet. A specimen when boxed ready for shipment will weigh 8 tons, and it will require an expenditure of something like £500 to deliver it in good condition in Chicago.

— PRUNUS PISSARDI FRUITING.—We send you by this post fruits of *Prunus Pissardi*, which we shall be glad if you will notice in your widely read paper. We believe it is rare for the fruit to be produced in this country.—E. D. SHUTTLEWORTH & Co. (LTD.), *Fleet, Hants*. [As the trees attain the requisite age they bear fruit under favourable conditions in this country, the same as the *Myrobalan* or *Cherry Plum* does, of which *Prunus Pissardi* is a purple-leaved variety.]

— AUGUST WEATHER IN HERTS.—The weather during the past month has been particularly cool. Only during three days has the thermometer risen above 75° in the shade, and not once has it reached 80°. There has also been a fair amount of sunshine, and more than the usual amount of rain. Rain fell on eleven days during the past month. The maximum in any twenty-four hours was 1.33, registered on the morning of the 28th. The minimum in any twenty-four hours was 0.03 on the 8th. The total during the month was 3.40, against 3.58 of 1891.—E. WALLIS, *The Gardens, Hamels Park, Buntingford, Herts*.

— THE WEATHER DURING AUGUST AT RIPLEY, YORKS.—The weather this month was fairly favourable. From the 19th to the 24th we had some of the most summer-like weather of the season, but the nights during the whole of the month were very cold. The total rainfall was 3.21 inches, which fell upon eighteen days, the greatest fall being 0.94 on the 29th. The mean reading of the barometer for August was 29.93. Mean maximum temperature, 67.4°; mean minimum temperature, 43.6°; mean temperature of the month, 55.5°. Highest maximum temperature, 78° on the 21st; lowest minimum temperature, 34° on the 11th. Up to the present we have not lifted one diseased Potato.—J. TUNNINGTON, *Ripley Castle Gardens, Yorks*.

— THE WEATHER LAST MONTH.—August was very changeable; we had a heavy thunder storm early on the 24th, and gales on the 14th, 30th, and 31st. The wind was in a westerly direction twenty-three days. The barometer was highest (30.29 inches) at 9 A.M. on the 10th; lowest (29.49) at 9 P.M. on the 30th. The total rainfall was 1.52 inch, which fell on fourteen days; the greatest daily fall being 0.37 inch on the 27th. The highest shade temperature was 81° on the 23rd, the lowest 35° on the 11th; the lowest on grass 35° on the 11th. Mean of daily maximum readings 70.53°; mean of daily minimum readings 50.96°. Mean temperature of the month 60.74°. The garden spring ran 20 gallons per minute on the 31st.—W. H. DIVERS, *Ketton Hall Gardens, Stamford*.

— SULPHATE OF COPPER FOR SCAB.—Dr. Fisher, one of the experimenters at the Hatch Experiment Station, has, says an American paper, laid us under a debt of gratitude if his views are well grounded. He believes copper sulphate in simple solution to be just as effective in destroying injurious fungi as any other preparation of copper. Moreover, it is much less expensive; the amount required being only 1 lb. to 600 or 800 gallons of water, while the Bordeaux mixture requires 4 lbs. for 50 gallons of water; counting the copper sulphate at 4d. a pound, this is 1s. 4d. per barrelful, which amounts to a considerable sum in a large orchard. His plan of operation is as follows:—As early in spring as weather permits gather and burn all stubble, weeds, grass, and *débris*, thus disposing of a large proportion of the winter spores of the various fungi. Then spray all trees, trellises, and Vines, and the surface of the ground not burned over with sulphate of copper—1 lb. to 100 gallons. This strength is only allowable before the foliage has developed. Just before the blossoms open spray all foliage with the solution, 1 lb. to 800 gallons, adding Paris green 1 lb. to 200 gallons. This should be repeated two or three times in the month of June, when the great bulk of both insects and fungi appear. Those who try this should do so on a small scale and note the results.

— HYDRANGEAS AND GLADIOLI.—We ("Garden and Forest") observe in some florists' windows a repetition of the practice which prevailed three or four years ago, of using the large white flower-heads of *Hydrangea paniculata grandiflora* on long stems, in large vases, with a few spikes of *Gladiolus* of some pronounced colour. This makes an effective combination, as well as a very durable one, for the *Gladiolus* will continue to open its flowers in succession for a long time, and the *Hydrangea* flowers will not only remain without wilting for a fortnight in a warm room, but will dry on the stem and preserve their creamy colour throughout the winter.

— AN ENORMOUS STRAWBERRY.—This fruit was sent to me a few weeks since, and deserves to be placed on record in your pages. Its circumference was 10 inches, the greatest diameter 2¾ inches; the weight rather more than 3 ozs. The variety was Laxton's Competitor, a strong-growing kind, but the fruits which I have tasted of it have all been deficient in flavour. The above fruit was very flat. It was grown by Mr. R. Gilbert, Burghley Gardens, Stamford, and was certainly the largest Strawberry I have ever met with.—W. H. DIVERS, *Ketton Hall Gardens, Stamford*.

— FUCHSIA FULGENS.—This old plant is seldom cultivated, and yet it is well worthy of a place in every large garden. The stems are red, the leaves cordate, soft and glabrous, with a red petiole, and prominent red veins. The flowers have a bright red calyx, forming a long narrow tube; the petals protrude beyond the divisions of the calyx, and are bright scarlet. The racemes are long and pendulous, terminal, and many-flowered. Plants grow very quickly when planted out, and form bushes 2 to 3 feet high. A bed at Chiswick is looking very well at present, but the pale green leaves do not show off the flowers as well as darker ones would. This is its only drawback.—C. K.

— MARKET TOMATOES.—The estimate of what is a good market Tomato differs appreciably. Some growers seem to think they cannot be too big, whilst salesmen seem to think the reverse. When at Heckfield Place, on the 1st, Mr. Maxim, the gardener there, invited me to look at a red Cluster Tomato, a few plants of which he has sent for trial by Messrs. Sutton & Sons. The fruits were of perfectly round form, running at about ten or twelve to the pound, and are borne in great clusters. The gardener said, "The other day Mr. ———," naming a well-known London salesman, "sent me a couple of small Tomatoes, saying that those were of the sort he wanted to please his customers, who wanted them small and in plenty." Mr. Maxim regards this new variety of Messrs. Sutton to be thus a *beau idéal* market Tomato.—A. D.

— ROMNEYA COULTERI.—Having been very successful in raising and flowering plants from seed of the grand Californian Poppy, *Romneya Coulteri*, we thought perhaps you would like to see a spray cut from one of our plants growing in a pot with the shelter of a cool greenhouse to protect the flowers from storms, and by this post we send you specimens. You must not, however, infer from this that greenhouse protection is absolutely necessary, as we have plants which have been growing outside during the last three winters, and at the present time look remarkably healthy, but we do not think they will flower at present, as the season generally in the Birmingham district has been cold and sunless.—R. H. VERTEGANS & Co. [A beautiful spray of this magnificent plant, which was illustrated in the *Journal* on February 7th, 1889.]

— A GARDENERS' OUTING.—About forty members of the Winchester and District Gardeners' Mutual Improvement Association took part in the first annual outing organised by this Society, which has been in existence about thirteen months, and paid a visit to Reading, on the date of the Reading Show, on August 31st. The party were met at the station by a representative of Messrs. Sutton & Sons, by whom they were conducted over the business premises of this well-known firm, in the Market Place. On leaving the seed stores brakes were waiting to convey the visitors to the trial farm, where many things of interest were examined. From there they were conveyed to the nursery, and spent an agreeable hour and a half among the various objects of interest. Special mention may be made of the Begonias, Gloxinias, Cyclamens, and Tomatoes. The party then returned to the Market Place, where they were entertained to lunch by Messrs. Sutton & Son. The party then divided—some going to the flower show, others visiting the biscuit factory, and other places of interest in the town. The party returned to Winchester by train early in the evening, after a most enjoyable and instructive day.

— **PLUMBAGO CAPENSIS.**—Gardeners usually look upon this as a greenhouse or stove plant, and consequently treat it as such; under these conditions it succeeds very well. Few treat it as a summer bedding plant; but it is wonderful how well it succeeds planted out in the Royal Horticultural Society's gardens at Chiswick. Planted at the same time as other bedding stuff the plants commence at once to grow vigorously, and soon fill the bed with young growths, each of which will bear a terminal spike of pale blue flowers about the beginning of September. *P. capensis* was introduced from the Cape of Good Hope in 1818; it is readily propagated, and after flowering in the beds the plants should be taken up, cut hard back and potted, keeping them rather dry during the winter. If repotted in spring and kept hardy the plants will be useful for several seasons. When planted out *P. capensis* grows about 2 feet high.—C. K.

— **SUMMARY OF METEOROLOGICAL OBSERVATIONS AT HODSOCK PRIORY, WORKSOP, NOTTS, IN AUGUST;** 56 feet above the mean sea level.—Mean temperature of the month, 58.9°. Maximum on the 23rd, 78.2°; minimum on the 11th, 39.2°. Maximum in sun on the 22nd, 132°; minimum on grass on the 11th, 32.1°. Mean temperature of the air at 9 A.M., 60.6°; mean temperature of the soil, 1 foot deep, 58.6°. Total duration of sunshine in the month, 130 hours, or 29 per cent. of possible duration; we had two sunless days. Total rainfall, 1.79 inch. Maximum fall in twenty-four hours on the 29th, 0.85 inch; rain fell on eleven days. Wind, average velocity, 8.6 miles per hour; velocity exceeded 400 miles on two days; fell short of 100 miles on eight days. Approximate averages for August:—Mean temperature, 59.7°. Sunshine, 149 hours. Rainfall, 2.36 inches. A cool and rather cloudy month, but with very little rain up to the last three days.—J. MALLENDER.

— **FLOWER SHOW AT ILKESTON.**—On Saturday last the annual Exhibition of vegetables, fruit, and flowers in connection with the Shipley and Cotmanhay Floral and Horticultural Society was held at Ash Street, Ilkeston, and was well attended. The produce shown was declared by the Judges to be the finest displayed in Ilkeston for many years, and the equal merit of most of the exhibits, particularly in the vegetable classes, was very noticeable. Mr. J. Webster had grand kidney Potatoes, Messrs. T. Winfield and T. Neath showing the premier "rounds." The other first prizetakers in vegetables were Messrs. A. Cockayne, T. Hallam, R. Cook, J. Cook, sen., W. Norman, W. Wheatley, J. Taylor, A. Stirland, and W. Whitehead. In fruits the premier prizes fell to Messrs. W. Whitehead, J. Cook, sen., W. Norman, E. Roe, A. Stirland, and A. Cockayne; and in flowers, plants, &c., to Messrs. J. Wheatley, E. Roe, W. Norman, J. Cook, sen., A. Stirland, W. Wheatley, J. Webster, S. Calladine, W. Whitehead, and W. Small & Sons.

— **ASTERS FOR INDOOR DECORATION.**—Just at the present time the various types of these handsome flowers are particularly useful for the purpose above indicated. We use them freely in window boxes, jardinettes, large vases, and bowls, in which they make a good show, and are a welcome change from the class of plants employed for some weeks previously, such as *Marguerites*, *Celosias*, *Pelargoniums*, and *Begonias*. The dwarf types are especially prized when arranged alternately with *Panicum variegatum* or other striped Grasses, and dotted with Palms, *Acacias*, or *Celosias* the effect is very striking. Asters lift so well that it is not necessary to place them in pots till the flower buds are formed. If they are then potted and placed in a shady position they quickly establish themselves, and are in a few weeks ready for use. Dwarf *Chrysanthemum*-flowered and *Victoria* are capital varieties for the purpose. Daniels' Dwarf Perfection is also excellent, and produces very large flowers for a dwarf sort.—H. D.

— **WATER PLANTS IN JAPANESE GARDENS.**—From Mr. Lafcadio Hearn's article, called "In a Japanese Garden," published in the July number of the "Atlantic Monthly," we quote the following:—"The garden contains no large growths. It is paved with blue pebbles, and its centre is occupied by a pondlet, a miniature lake fringed with rare plants, and containing a tiny island. Here and there at the edge of the pond, and almost level with the water, are placed large flat stones, on which one may either stand or squat, to watch the lacustrine population or to tend the waterplants. There are beautiful Water Lilies, of which the bright green leaf-disks float oilily upon the surface (*Nuphar japonica*), and many Lotus plants of two kinds, those which bear pink and those which bear pure white flowers. There are Iris plants growing along the bank, of which the blossoms are prismatic violet, and there are various ornamental Grasses and Ferns and Mosses. But the pond is

essentially a Lotus pond; the Lotus plants make its greatest charm. It is a delight to watch every phase of their marvellous growth, from the first unrolling of the leaf to the fall of the last flower. On rainy days especially the Lotus plants are worth observing. Their great cup-shaped leaves, swaying high above the pond, catch the rain and hold it awhile; but always after the water in the leaf reaches a certain level the stem bends, and empties the leaf with a loud splash, and then straightens again. Rain water upon a Lotus leaf is a favourite subject with Japanese metal-workers, and metal-work only can reproduce the effect, for the motion and colour of water moving upon the green oleaginous surface are exactly those of quicksilver."

— **FLOWERS OF THE INDIARUBBER.**—A correspondent sends us ("Meehan's Monthly") some buds taken from the axils of the leaves of an Indiarubber, which he took to be an abortive flower bud; but which, on being cut open, appeared more like the immature Fig. This is all right, because the plant usually known as Indiarubber is really a Fig—that is to say *Ficus elastica*. These little buds frequently appear in Indiarubber plants; but we have not known them to perfect themselves in our country. We should be glad to know whether this does occur at times under cultivation. An examination of these buds is very interesting to those who would understand the structure of the Fig. We may say in common language, that the Fig is a bunch of flowers turned inside out. The flowers of the Fig are all on the inside of this bud—some of them are purely staminate and others pistillate. It is a frequent subject of controversy whether the common garden Fig has fruit wholly of one kind or wholly of the other kind. We are quite sure, notwithstanding the opinion of some botanists, that we have found both the barren and fertile flowers in the same Fig; and this will be found occasionally in the fruit of *Ficus elastica*. When examined with the lens, these little flowers inside the Fig will be found very beautiful and well worthy of study.

— **SEAKALE FROM CUTTINGS.**—Although this may not be quite a seasonable time to talk about Seakale from root cuttings, I am led to the subject by the closing note of the report of Oakley Hall Gardens, page 191, where "A. D." says, "Curiously enough Seakale from root cuttings is first class." From this remark I can only conclude that in "A. D.'s" experience this method of growing Seakale is a novelty. I may be wrong, but from the wording I can infer nothing else. If he saw the quantities grown in this neighbourhood for market purposes he would cease to think it curious. It would be difficult to find better examples, and all grown from root cuttings inserted in the early part of the current year. By the beginning of next March they will all have been cleared off and forced. Seakale is considered to be one of the best paying vegetable crops in these parts, the soil apparently suiting its requirements to a nicety. The method adopted is to collect all spare pieces of roots 4 inches long when digging them up for forcing, commencing early in the autumn. The roots are cut into the lengths named, tied in bundles, and covered over with soil, where they remain until it can be seen which end of each root promises the best growth; the pieces are then ready for planting in rows in the open, the tops of each piece being just covered with soil. The land is well prepared by manuring freely, which induces a free growth, and by the autumn splendid crowns are available.—SOUTH HANTS.

NEW VARIEGATED FERNS.

THE three new variegated Ferns exhibited by Mr. H. B. May at Chiswick on August the 23rd and 24th, and for which first-class certificates were awarded by the Royal Horticultural Society, are valuable additions to our greenhouse Ferns. They were all raised from the same batch of seedlings, and a curious point is that several plants of each variety were obtained. They all came from a batch of seedlings of *Pteris Victoriae*, which consisted of several hundreds of the true type.

Of the three distinct varieties the most remarkable is *Pteris tremula variegata*. This has the true character of tremula; the pinnæ are perhaps a little narrower than the variety of tremula now mostly grown, but exactly the same form exists among green varieties of tremula. The variegation consists of a silvery grey linear marking, which also runs through in stripes nearly to the margin of the pinnules. As Mr. May already has several plants of the same variety there is every reason to hope that there will be little difficulty in getting it true to character from spores, and if so it is sure to become one of the most popular Ferns for decoration.

P. reginae partakes more of the habit of *P. Victoriae*, but is of more

vigorous growth. The variegation consists of a linear band of silvery white, radiating in stripes which run through to the margin of the

of *P. Victoriae* were much inclined to produce imperfect fronds, but as the plants have advanced they have grown out of that imperfection to a



FIG. 31.—PTERIS REGINA CRISTATA.

pinnae. *P. reginae cristata* is a very prettily crested variety, hence very distinct. It is represented by fig. 31.

The plants exhibited were raised from spores sown about a year ago. They have been grown in a moderate stove temperature. The seedlings

great extent, and Mr. May now has a good batch of well developed plants. Being of slender growth it requires more care than many of the *Pterises*; for one thing, overpotting should be avoided, also excess of moisture.

HORTICULTURAL SHOWS.

BATH.

ONCE more the Committee of the Bath Floral Fêtes have met with a serious disappointment, one of the best exhibitions they have ever had being completely marred by the wretchedly bad weather experienced on the opening day. The attendance was good on the second day, but the deficit on the whole undertaking must be very heavy, and this is much to be regretted, the finances already being in a poor plight owing to a series of bad days having taken place.

Fuchsias invariably occupy the most prominent position on the prize list and in the show tent, and these, though very well shown, were scarcely so good as usual. The best nine specimens were shown by the veteran grower and raiser, Mr. J. Lye, gardener to the Hon. Mrs. Hay, who had tall, neat, and beautifully flowered pyramids of Charming, Abundance, Annie Earle, Duchess of Fife, Lye's Rival, Doel's Favourite, Miss Balfour, Mrs. Rundle, and Final. Mr. G. Snell, gardener to Mrs. Counsell, Bath, staged much larger specimens, but not so well flowered as Mr. Lye's, and was placed second, Mr. J. H. Willcox being third with dwarf, very well flowered pyramids. For six specimens Mr. W. Marchant, gardener to Jerome Murch, Esq., Bath, was easily first, showing Final, Arabella, Doel's Favourite, Bountiful, Lye's Favourite, and Charming in good condition. Mr. A. F. Cray, Frome, was a creditable second. The principal prizewinners in the other classes for Fuchsias were Messrs. Marsh, Doherty, Lye, Snell, and Marchant, the exhibits being highly creditable in each instance.

With stove and greenhouse plants Mr. J. Cypher, Cheltenham, was well to the front, taking first prizes in numerous classes with his well known specimens; Messrs. Heath & Son, Cheltenham, and Mr. J. Curry, Salisbury, following in the order named in the class for eighteen plants. The first prize for six flowering plants was well won by Mr. McBennett, gardener to C. W. Mackillop, Esq., Bath, who had *Ixora Regina*, *Bougainvillea glabra*, *Dipladenia Brearleyana*, *Allamanda nobilis*, *Ixora Pilgrimi*, and *Clerodendron Balfourianum* in good condition. Mr. G. Tucker, gardener to Major Clarke, Trowbridge, was a close second.

Orchids were not extensively shown. The best six, these consisting of *Cattleya aurea*, *Odontoglossum grande*, *Vanda coerulea*, *Odontoglossum Harryana*, *Dendrobium Phalaenopsis Schröderiana*, and *Cypripedium Harrissianum*, were staged by Mr. Cypher, the second prize going to Mr. R. B. Cater. Zonal Pelargoniums were well shown, though Mr. G. Tucker was easily first for six varieties, the second prize going to F. J. Tate, gardener to W. Pumphrey, Esq., Bath; and the third to Mr. E. Hall, Bath. With four varieties Mr. W. Marchant was first, and R. B. Cater, Esq., second; while for Ivy-leaf varieties Mr. W. J. Stokes was first, and Mr. A. Cray second. Gloxinias were fairly numerous and good, Mr. Tucker having the best, Mr. J. A. Timmins also showing well. Three classes were provided for Liliums, all being well filled. The principal prizewinners were Messrs. Cole & Son, W. Marchant, T. Carr, and E. A. Jones. Messrs. Cooling & Son were first for very fine Cockscombs, a little overpotted perhaps, the second prize going to Mr. R. B. Cater. Tuberosus Begonias were very good, notably those which gained Mr. J. B. Blackmore the first prize in the classes for both single and double flowering varieties; Mr. F. Mead, gardener to J. Stuckey, Esq., and Mr. J. A. Timmins also showing well, and taking prizes. Ferns were in admirable condition. The first prize for twelve exotic specimens went to Mr. J. Deacon, gardener to H. J. Harris, Esq., Calne; the second to Mr. G. Tucker; and the third to Mr. E. Daggar, gardener to Mrs. Simms. The best British Ferns were shown by Messrs. Cole & Sons, Brown & Son, Frome, being a very close second. *Coleus* were considerably above the average, notably those which gained Mr. McBennett the first prize and the second prize lot staged by Mr. J. Lye.

There were four competitors in the class for groups arranged for effect on a space not less than 100 square feet; but although all made very creditable displays, the old stiff greenhouse arrangements that used to prevail at Bath being departed from in each instance, the Judges had no difficulty in awarding Mr. J. Cypher the first prize. The premier prize group was generally considered the most effective ever seen at Bath, and was one of the principal features in a generally excellent show. The background was sufficiently heavy and imposing to form an admirable foil for a series of charming isolated groups composed of central elegant Palms with a base of choice Orchids and Ferns in the foreground. The intervening spaces were mossed over, and were relieved by a few choice yet showy plants at wide intervals or in conspicuous positions. Mr. J. Deacon took the second prize with an arrangement consisting principally of a groundwork of Maidenhair Fern with numerous well grown Palms, *Dracaenas*, *Crotons*, Orchids, Cockscombs, and other plants dotted at rather too regular intervals among them. Mr. McBennett had a somewhat similar arrangement, but the materials were scarcely so good, and was third; while an extra prize went to Mr. J. Curry, who displayed more taste and originality than either Mr. Deacon or Mr. Bennett, but his plants were not sufficiently fresh to please the Judges.

Cut flowers were most extensively shown, several fine stands being unavoidably passed over, more especially where there was no limit to the number of bunches, in favour of those comprising the greater number of varieties—a state of affairs that several persons thought ought to be prevented another year. Gladioli were surprisingly good, notably the grand stand of thirty-six spikes, as shown by W. H. Fowler, Esq., Taunton. Mr. S. Bird, gardener to F. H. Fox, Esq., was a very creditable second in this class; and Mr. A. A. Walters, Bath, a close third. For twelve varieties Mr. S. Tottle, Taunton, was first; Mr. J. Nation,

also of Taunton, second; and Messrs. Cole & Son third. The best twenty-four Dahlias were shown by Mr. G. Humphries, Chippenham, included among these being grand blooms of Mrs. Davis Saunders, Henry Walton, Maud Fellowes, W. Rawlings, Reliance, John Walker (a fine white), and Mrs. Humphries (pearl-pink, a distinct improvement on Mr. G. Rawlings). Mr. J. Nation was a good second; and Mr. F. Harris third. For twelve varieties Mr. T. Hobbs, Bristol, was well first; Mr. J. Newman being second, and Mr. T. Haskins third. The first prize for twelve Fancies went to Mr. G. Humphries, among these being perfect blooms of Mrs. J. Downie, J. Cooper, Mrs. Saunders, and Salamander. Mr. J. Nation was second; and Mr. W. Smith third. With single Dahlias Mr. A. A. Walters was well first; Mr. T. Carr being second; and Mr. T. A. Vickless third. A grand box of new Cactus Dahlias, shown by Messrs. Keynes, Williams & Co., Salisbury, received very high commendation from both the Judges and visitors. The varieties were Kynerith, St. Catherine, Baron Schröder, Lady Skelmersdale, Bertha Mawley, Countess of Radnor, Apollo, and Countess of Gosford. Roses were fairly numerous and good, Bath amateurs, however, having matters very much their own way. For twenty-four single blooms, distinct, Dr. Budd was well first, some of his best being François Michelin, Captain Christy, Camille Bernardin, Souvenir de la Malmaison, A. K. Williams, Alfred Colomb, Marie Rady, Marie Margot, and C. Lefebvre. Mr. A. Hill Gray was a creditable second. Similar positions were occupied by these growers in the class for twelve varieties, but for a like number of Teas Mr. Gray succeeded in turning the tables on his formidable rival. His blooms of *Maréchal Niel*, *Souvenir d'Elise Varden*, *Madame Lambard*, *Madame C. Kuster*, *Madame Camille de Rohan*, *Alba rosea*, and *Comtesse de Nadaillac* being particularly good. A certificate of merit was awarded to Messrs. G. Cooling & Sons, Bath, for a grand display of Teas in bunches, four boxes of these being staged. Verbenas, Asters, Pelargoniums, and Hollyhocks were all numerous and well shown; the principal prizewinners being Messrs. G. Garraway, W. F. Catlin, W. J. Jones, A. A. Walters, R. B. Cater, G. Tucker, E. Hall, J. Burgess, and W. Smith. Five competed with twenty-four bunches of stove and greenhouse flowers, distinct, and a very beautiful display they made. Messrs. E. Cole & Sons were first, H. Pocock second, G. Tucker third, and H. C. F. Applegate highly commended. Messrs. Cooling & Sons had a grand lot of hardy herbaceous flowers in bunches, all the best species and varieties in cultivation being represented, and were rightly awarded the first prize; Mr. A. A. Walters following with a remarkably well set up collection. Mr. G. Garraway was third, and there were six other lots shown. Annuals in bunches were also numerous shown, the first prize going to Mr. F. Hooper, Bath; the second to Mr. A. H. Newman; and the third to Mr. J. Stuckley. Mr. Cypher was well first for a vase; Mr. E. S. Cole being second, and Mr. T. Meakins third; while for a hand bouquet the prizes went to Mr. F. Case, Cardiff; C. Dobson, Clifton; and Brown and Son in the order named.

The fruit tent is always very popular at this Show, and was even better than usual. Some idea of the extent of the display will be gathered from the fact that upwards of 250 bunches of Grapes were shown, there being enough of these to extend completely round a fairly large tent. Four competitors staged a collection of twelve dishes of fruit, but Mr. W. Nash, gardener to the Duke of Beaufort, Badminton, was easily first, having excellent Alicante and well-coloured Muscat of Alexandria Grapes, Golden Gem and Hero of Lockinge Melons, *Violette Hâtive* and *Stirling Castle* Peaches, Rivers' Orange and Galapin Nectarines, Morello Cherries, Hemskerk Apricots, Prince of Wales Plum, and Williams' Bon Chrétien Pears, all in perfect condition, the good colour throughout being very marked. Mr. J. Cray was a good second, and Mr. Pymm, gardener to Mrs. Goldsmith, Trowbridge, third, the Grapes in this case being somewhat poor.

Five competed with a collection of eight bunches of Grapes in four varieties, but Mr. W. Taylor, gardener to Alderman Chaffin, Bath, was well first, having grandly finished clusters of Muscat of Alexandria, Alicante, Alnwick Seedling, and Madresfield Court. Mr. J. Gibson, gardener to Earl Cowley, Chippenham, was a highly creditable second; and Mr. J. Bury, gardener to C. Bayer, Esq., London, a good third. No less than eighteen growers competed with three bunches of Black Hamburg, the first prize for which went to Mr. J. Gibson, who had fine, well-finished bunches; Mr. J. Marshall, gardener to J. Dole, Esq., being a good second; and Mr. W. Robinson, gardener to Lord Justice Lopes, Westbury, a close third. Fifteen competed in the class for any other black variety, and here Mr. W. Taylor was a good first with Madresfield Court in perfect condition; Mr. W. Nash being second with very fine Alicante; and Mr. S. Bryant, gardener to Dr. Grace, Kingswood, third with very good Muscat Hamburg. Nine staged Muscat of Alexandria, but Mr. W. Taylor was easily first with fine, well-coloured bunches; Mr. P. Davidson, gardener to Lord Wolverton, Shaftesbury, being second; and Mr. T. Wilkins, gardener to Lady Theodore Guest, Blandford, third, the bunches being well finished in both instances. In the class for any other white variety ten competed. Mr. J. Marshall was first with grand Buckland Sweetwater; Mr. Wilkins being second with Foster's Seedling, in better condition than is often seen; and Mr. W. Trevillian third with good Buckland Sweetwater. A local class for Grapes also attracted good competition, several growers exhibiting very creditably. Mr. Marchant was first with good Black Hamburg; Mr. Tickle, gardener to Mrs. Stodbert, being a close second; and Miss Marriott third.

Melons, though fairly numerous, were not of great merit. The principal prizewinners with these were Messrs. R. Hull, Chippenham; H.

Chislett, gardener to E. T. D. Foxcroft, Esq.; J. Gibson, W. Coombes, gardener to W. Langdon, Esq.; J. Mabbett; W. Allen, gardener to T. G. P. Hallett, Esq.; and C. Adlam. Peaches were extensively shown and in some instances were very good. Mr. T. Wilkins had a first prize for a grand dish of Sea Eagle, and Mr. W. Iggulden a first for Barrington in good condition, other prizewinners being Messrs. T. Jones, Cray, and Pymm; the last named had a first prize in the class for Nectarines for very fine Pine Apple, Mr. T. Wilkins being second with good Albert Victor. In another class Mr. Marchant was first and Mr. C. Trimby, gardener to J. W. Dunn, Esq., second. Mr. D. Deverill, Farleigh Castle, was first for Figs, staging good Brunswick, Mr. W. Iggulden being second with Brown Turkey. Plums in three classes were far more plentiful than anticipated. In the class for any dessert variety Mr. W. Iggulden was first for a pretty dish of Early Transparent Gage, Mr. R. Denton being second with good Jefferson. Mr. W. Smith was first with Green Gages and second with culinary Plums, Mr. G. H. Osborn taking first for the latter with a fine dish of Diamond. Mr. Buckley was first for Cherries, Mr. W. Evry for Filberts, and Mr. C. Rickets for Nuts, the competition being good in each instance. A fine dish of Clapp's Favourite won Mr. G. Horsell a first prize for dessert Pears, Mr. Jones being second, and there were other classes for Pears and also dessert and culinary Apples, but the prize cards were put on too late for the names to be taken.

Vegetables were very fine, everything in season being provided for and well represented. The best twelve varieties were shown by Mr. T. Wilkins, who had five dishes of Cauliflowers, Autumn Giant; Parsnip, The Student; Celery, Veitch's Giant White; Beet, Pragnell's Exhibition; Tomato, Perfection; Runner Beans, Veitch's Mammoth; Potato, Satisfaction; Carrot, Veitch's Intermediate; Leek, Lyon; Pea, Prodigy; and Cucumber, Allan's Favourite. Mr. G. H. Copp was second, and Mr. G. Garraway, third. There was a grand display of Tomatoes, but Mr. Holbrook, gardener to Mrs. Beddo, was well first with Clibran's Perfection, extra good; Mr. T. Wilkins was second, and Mr. J. Deacon third. The best basket of salad came from Mr. T. J. Tate. Special prizes were provided for collections of vegetables by Messrs. Sutton and Sons, Reading, and Messrs. Webb & Sons, Stourbridge, and collections of Potatoes by Messrs. Cooling & Sons, Bath; the competition for all of which was close and good. The principal prizewinners were Messrs. Wilkins, Copp, Garraway, J. Deacon, W. Evry, and J. Hall. Cottagers also made a good display of vegetables.

Among the most noteworthy of the non-competitive exhibits were displays of cut Begonias in fine variety by Mr. B. R. Davis, Yeovil, and the Rev. E. Lascelles, near Bath, the last named also having several plants in pots of superior varieties. Messrs. Cooling & Son filled a large table with Apple trees in pots, beautifully fruited, and a great variety of Apples in dishes. Some of the best represented varieties were Emperor Alexander, Lord Grosvenor, Lord Suffield, Stirling Castle, Domino, Beauty of Bath, Prince Albert, Worcester Pearmain, Duchess of Oldenburg, Potts' Seedling, Golden Spire, The Queen, Cox's Pomona, Bismarck, and Belle de Poulise. Messrs. Jarman & Co., Chard, also staged a capital lot of Apples and other fruit, including fine bunches of Hamburgh Grapes, with vegetables in good variety, Dahlias, Roses, and herbaceous flowers.

BRIGHTON.—AUGUST 27TH AND 28TH.

A NEW era has opened in connection with horticulture at Brighton, and one in which there is great hope for the future. It is not necessary to particularise the causes which led up to the formation of a new Society there a few months ago, for the unsatisfactory state of things that they resulted in has been fully remedied; but it is only just to indicate how completely the action of those who set to work to substitute a fresh society for the old one has been vindicated. They encountered great obstacles, and no doubt their action was misunderstood by many of those who were not sufficiently behind the scenes to appreciate the necessity for vigorous measures, but they pursued their course with energy, foresight, and discrimination, the result being an accession of influential supporters that speedily placed the success of the movement beyond doubt. When last week the summer Show afforded an opportunity of testing the metal of the young Society its strength was triumphantly asserted. The Exhibition was far the best of its kind ever held in Brighton. The prize list was arranged with a judgment and liberality that commanded large entries and the co-operation of some of the best-known exhibitors in the South of England. In every department the quality was of a high order, and it only remains to express a hope that the Society will go on as it has begun, then it may confidently be expected to become one of the most powerful local organisations in the country.

In our last issue we indicated the success of Mr. Peel, gardener to Miss Todd, Southampton, in the leading class for groups. The space to be covered was 100 square feet, and the first prize consisted of a shilling for each square foot, or £5. Mr. Peel had a very attractive arrangement—bright, but not heavy; and well merited the premier award. The plants were not striking individually, but were clean, healthy, and well balanced. Mr. Turner, gardener to Sir G. Smyth, Wick Hall, was second; and Mr. G. Miles, nurseryman, Brighton, third. A second group was asked for to cover a space not exceeding 60 square feet, a first prize of £3 being offered; this fell to Mr. Meachin, gardener to Mrs. Armstrong, Woodlee; Mr. Fry, gardener to C. Catt, Esq., following. These exhibitors had both done their work with taste. A third group was to be composed of Ferns, and to cover a space not exceeding 80 square feet. Mr. G. Miles won here with an arrangement

that had evidently been well thought out, departing in several respects from the conventional lines. Mr. W. Miles was second; and Mr. Jupp, gardener to G. Boulton, Esq., third. The latter was placed first for an effectively arranged table of plants; and Mr. Murrell, gardener to Mrs. Macdonald, for a table of Begonias. In both cases well-grown material was used with judgment.

Reference was made last week to the magnificent specimens staged by Mr. Offer, gardener to J. Warren, Esq., Handcross Park, Crawley, and with which he easily secured the first prize of £10 in the class for twelve stove and greenhouse plants. His Crotons were wonderful examples of size combined with fine colour and perfect cleanliness. C. Prince of Wales was splendid, as were the Lapagerias, Ericas, Allamanda Hendersoni, and Dipladenia amabilis. Mr. Portnall, gardener to Sir A. Lamb, Bart., was second, and Mr. Meachen third, both showing healthy material. Mr. Jupp, wisely reserving his best plants for the smaller class, was placed first for six, and did himself full justice. Mr. Offer easily secured the premier award for six Crotons, his plants of undulatus, Sunset, and Williamsi being particularly fine, and he won again with six Dracenas, the minor prizes going to Messrs. E. D. Shuttleworth & Co. and Mr. Turner. The best specimen ornamental foliage plant and the best specimen flowering stove and greenhouse plant both came from Mr. Warren, the former being the grand Croton Weismanni which has been admired by many visitors to metropolitan exhibitions. Mr. Duncan won with four Orchids, and other prizes in the plant classes went to Messrs. W. Miles, A. Fry, Jupp, and Stovel.

Dahlias being the principal flowers in season were strongly represented in the cut flower classes. Mr. Humphries, Kington Langley, who has exhibited remarkably well this year, was first with forty-eight blooms, staging smooth, fresh, but not large flowers. Mr. M. V. Seale, Sevenoaks, was a very good second, and Mr. Such, Maidenhead, third. In the class for twenty-four blooms, Messrs. Cheal & Sons, Lowfield Nurseries, Crawley, were first for excellent examples; Mr. Mitchell, gardener to Sir J. Colquhoun, Bart., second, and Mr. Dawson, St. Leonards, third. The Crawley growers were to the fore again with twelve blooms, and also, as might be expected, with Cactus and single varieties. The two last were extremely beautiful, the flowers being notable for good type, clear colours and perfect freshness rather than large size. Mr. Seale was second for Cactus varieties, but first for Pompons, which he showed remarkably well. Messrs. Cheal & Son were placed first for Gladioli. There were three classes for Roses. In the first, that for twenty-four varieties, Mr. Woollard, Cooksbridge, was first, and in the others, Mr. H. Harris, gardener to Mrs. Eversfield, Horsham, was the most successful. Mr. Archer, gardener to Miss Gibson, Saffron Walden, won with twenty-four varieties of stove and greenhouse flowers, and Mr. Duncan with twelve varieties, the minor awards falling to Messrs. Gore, Blake, and Offer. The other cut flower classes were too numerous to be particularised, but it may be noted that Messrs. Pritchard, Manton, Such, Sage, Sutton, Peel, Seale, Chard, Potter, and Chadwick showed prominently in them.

Fruit was an excellent display. The principal class was that for eight dishes, prizes of £5 £3, and £2 being offered. The first was secured by Mr. Reynolds, gardener to Messrs. de Rothschild, Gunnersbury Park, Acton, who had excellent bunches of Gros Maroc and Muscat of Alexandria Grapes, a good Pine and Melon, Clapp's Favourite Pears, large Brown Turkey Figs, Sea Eagle Peaches, and La Grosse Sucrée Strawberries. Mr. Sage, gardener to Earl Dysart, Ham House, Richmond, Surrey, was second; and Mr. Potter third. Mr. Reynolds also showed splendidly in the Grape classes, being represented by the same varieties as he had in his first prize collection in each of the classes for three bunches. Mr. Webster, gardener to Dr. Kirby, was first with one bunch of a black variety, showing Madresfield Court; other prizes in the Grape classes going to Messrs. Spottiswood and Coleman. Apples, Peaches, Plums, and Cherries were all good. Mr. Reynolds won with culinary Apples, and Mr. Miller with dessert varieties, both having splendid dishes. The smaller awards went to Messrs. Sage, Stringer, Blake, and Sands. Mr. Potter was the most successful with Peaches, Mr. Duncan with Cherries, and Messrs. Harris & Didman with Plums.

MOSELEY BOTANICAL GARDENS AND COLLEGE GROUNDS, BIRMINGHAM.—AUGUST 30TH AND 31ST.

WE gave a report of the Rose Show here in July, when a terrible hurricane blew down one tent, and we have to record another unfortunate experience with the Dahlia Exhibition on August 30th and 31st. It rained incessantly and blew a great gale, but the tent men stuck to their work night and day, and no damage was done to any exhibits.

Substantial prizes were offered for collections of Dahlias, all kinds admissible, to occupy a space of not less than 12 feet by 3 feet wide, and seven collections were staged, each from 15 to 20 feet long. They formed a grand bank of flowers, and Dahlias are most effective when displayed in this way. The first prize was well won by Messrs. Perkins and Sons, Coventry, with an artistically set up group, show flowers on the usual boards being arranged in front with pretty bunches of Pompons and other decorative varieties, the Pompons predominating in formal bunches, and attractive baskets and bouquets of Dahlias were added, the back rising to about 2½ feet high. Messrs. Jones & Sons, Shrewsbury, had a very fine display, which took the second prize, and Messrs. Kimberley & Son, Stoke, Coventry, were third, their flowers being neatly staged, but a little heavy in arrangement. The classes for thirty-six and twenty-four Dahlias were well filled, Messrs. Heath and

Son, Cheltenham, keeping to the front; other leading growers also exhibiting.

A very fine bank of hardy border flowers was staged for the prizes offered for them, and in the class for twenty-four distinct kinds, Mr. W. B. Child, Acocks Green, was first, and Messrs. Harkness & Sons second, showing in their usual style.

Fruit also was made a leading feature, and prizes of £5, £4, and £3 were offered for a collection of eight varieties, and five exhibits were staged. First, Mr. James Dawes, gardener to H. M. Biddulph, Esq., M.P., Ledbury Park, with two grand bunches of Gros Maroc Grapes, two of Muscat of Alexandria, an excellent La Favorite Melon, very fine Barrington Peaches, and Humboldt Nectarines, Roman Apricots, and Figs. Second, Mr. T. Roberts, gardener to H. W. Foley, Esq., Prestwood, Stourbridge, with excellent Alicantes, Muscats, splendid Brunswick Figs, fine Grosse Mignonne Peaches, Hemskerk Apricots, Pitmaston Orange Nectarines, and other fruits. Third, Mr. Gilman, Ingestrie, who had in his collection Hero of Lockinge Melon, Hamburgh and Muscat Grapes, Lord Napier Nectarines, Apricots, and Figs, all good. Fourth, Mr. Bannerman, Blithfield. For three bunches of Black Hamburgh Grapes Mr. Bannerman was first with some fine examples; second, Mr. A. J. Pass, Birmingham; third, A. Bird, Esq., Birmingham. For three bunches of Muscat of Alexandria, first, Mr. Bannerman; second, Mr. Wm. Shaw, Kidderminster. For three bunches of any other black: first, Mr. Bannerman, with fine Alicantes; second, Mr. W. Shaw, with Gros Maroc; third, Mr. Gilman, with small bunches, but beautifully coloured, of Gros Maroc. Extra, Mr. Lister Lea. Mr. T. Pritchard, Umberslade Hall Gardens, staged eight fine Queen Pines, a fruit of Enville Queen being especially good, and a first-class certificate was awarded to it.

The local gardeners also had fruit classes which were well filled. Mr. Stainton, Stoneleigh, near Kenilworth, near to the celebrated Stoneleigh Abbey, Lord Leigh's residence, sent two dozen very large fruits of Williams' Bon Chrétien Pears from a wall, very fine examples such as one rarely sees; and Messrs. Bunyard & Sons, Maidstone, contributed fifty-six dishes of Apples and Pears and eight baskets of Apples. It was a very fine display, and was greatly admired by those who braved the weather. The Apples had been selected more to show their character than extreme size, and were all round a fine lot, colour predominating. Of the dessert Apples, Okera, a Russian variety, is a coloured fruit of good flavour and a good keeper. Beauty of Bath is a handsome flattish fruit, very early and excellent. Cardinal (or Peter the Great) a handsome fruit, rich in colour, a wonderful cropper of fine quality. Duchess of Gloucester becomes a bright scarlet, a medium-sized Apple, keeping to Christmas. Amongst the kitchen varieties Washington, large and handsome and nicely coloured, and Seaton House, with many old varieties, were all very fine. Bismarck, an Australian variety and an immense cropper, is a large heavy solid fruit, a late keeper, and becomes rich in colour. Gold Medal is of the Ecklinville type, it becomes quite yellow, keeps longer, and is even a better cropper.

Messrs. Sutton & Sons, Reading, sent a grand lot of their choice Gloxinias, including Her Majesty, Cyclops, Admiration, and Duke of York, to all of which first-class certificates were awarded. A display of improved Phlox Drummondii and other annuals was also made. Mr. Hy. Eckford, Wem, sent a collection of his lovely Sweet Peas, and first-class certificates were awarded to Venus, Lord Beaconsfield, Ovid, H. M. Stanley, Lady Penzance, and Royal Robe, all yet to be sent out, and beautiful acquisitions. A first-class certificate was awarded to Messrs. Perkins & Sons, Coventry, for a new Cactus Dahlia named Matchless, a rich deep crimson maroon, almost black, and of very fine quality; and first-class certificates were awarded to Mr. Charles Turner, Slough, for four very fine seedling Cactus Dahlias—viz., H. E. Milner, a lovely buff tinted pink; Sir Hugo, a grand scarlet; Blushing Bride, white; and Joseph Chamberlain, orange tinted buff; also to Pompon Little Lady, cream tinted with bright rosy carmine. Mr. Harry Whateley, Spring Gardens, Kenilworth, sent two dozen grand fruits of the American Tomato Ignatum, very fine indeed. Messrs. Pope and Sons contributed a wreath and a very lovely shower bouquet. Messrs. Hewitt & Co. had a bank of bloom 40 feet long, and nearly 4 feet wide. Messrs. Thomson & Co. also set up a fine display of herbaceous blooms, Violas in pots, a fine lot of Carnation and Picotee blooms, including some of Benary's new ones, and three of their seedling fine rose flakes. Messrs. Harkness & Sons had an attractive exhibit. Messrs. Shaw, and Jones & Sons, had collections of Gladioli; Mr. Robert Sydenham a display of prize vegetables from his seed.

A very fine lot of specimen Begonias were staged by F. Jenkins, Esq., Birmingham. A stage 30 feet long, by 7 feet wide, and 1 foot in height, covered with green baize, was erected especially for them, and thirty grand specimens in full bloom were somewhat crowded in the space; a special first-class certificate for culture and excellence was awarded to them.

READING.—AUGUST 31ST.

WHILST last year this excellent provincial Society had to suffer on the day preceding the Show from a terrific wind storm, which tore its fine tent into pieces; this year there was a visitation of rain during the afternoon, which materially affected the attendance, as well as comfort, and drove visitors to the shelter of the small tents that had been erected, far too much for anyone's enjoyment. Later the attendance, happily, was very large, when rain ceased. The site of the Show was the beautiful Forbury Gardens. There is in the gardens no ample grass area, hence the Show, as far as could be, was distributed in several small tents, much to its demerit; and all the vegetables had to

be staged outdoors, much to their deterioration. It need hardly be said that if the Reading Horticultural Society is to occupy a position worthy of the prosperous and distinguished town which gives it a name a very big effort must be made another year to find, not only a fitting place for the Show, affording ample tent room, but also that much must be done to make the autumn Show what it ought to be—the finest, most attractive, and most popular of all home counties exhibitions.

If, for once departing from ordinary formula, we give the vegetables the pride of place in this report it is because these formed so striking a feature of the Show; indeed, a better display of these useful products can hardly be seen anywhere. With such high-class and formidable competitors as Messrs. Lye of Sydmonton Court, Pope of Highclere Castle, Bowerman of Hackwood Park, Waite of Esher, Kneller of Malshanger, and Best of The Vine, and such donors of liberal prizes as Messrs. Jas. Carter & Co., High Holborn, Webb of Wordsley, Fidler of Reading, and last though very far from least, the famous firm of Messrs. Sutton and Sons, Reading, no wonder the exhibits were of the very best quality, and the competitions stoutly contested.

First in the schedule came the prizes of Messrs. Carter & Co. for an unlimited class. There were three competitors, and a total of sixty-four dishes. Mr. Pope, gardener to the Earl of Carnarvon, Highclere Castle, was first, having very good Autumn Giant Cauliflowers, Giant White and Sulham Prize Celeries, Adirondack and The Canon Potatoes, Perfection Tomatoes, Canadian Wonder Dwarf and Jubilee Runner Bean, Rousham Park Hero Onions, &c. Mr. M. Lye, gardener to W. G. Kingsmill, Esq., Sydmonton Court, was second, having very handsome samples of Holborn Onions, Model Leeks, Perfection Beet, Giant Cauliflowers, Telephone Peas, Jubilee Runner Beans, Solid Ivory White and Standard Bearer Celeries, Scarlet Intermediate Carrots, Model Cucumbers, &c. Third Mr. Waite, gardener to the Hon. Colonel Falbot, Glenhurst, Esher, whose collection of twenty-four dishes lacked the best average quality, but included most of the above varieties.

Nine lots of six varieties competed for Messrs. Webb & Sons' prizes. Here Mr. Kneller, gardener to W. Portal, Esq., Malshanger, who was not very strong at Basingstoke, surprised his friends with the high excellence of his exhibits, and was placed first. He had gigantic Rousham Park Hero Onions, good Perfection Tomatoes, fine Satisfaction Potatoes, handsome Ne Plus Ultra Runner Beans, excellent Autumn Giant Cauliflowers, and fine New Intermediate Carrots. Mr. Bowerman, gardener to C. Hoare, Esq., Hackwood Park, who also had superb exhibits, was second with good Cauliflowers, though perhaps his weakest dish; very fine Ailsa Craig Onions, handsome Defiance Carrots, good Duke of Albany Peas, Sensation Tomato, and Satisfaction Potato. Mr. Waite came third, having rather too large Satisfaction Potato, similar Carrots, Peas, and Cauliflowers to the preceding; Onions and Tomatoes. Mr. W. Pope was fourth. Six collections competed for the prizes offered by Mr. C. Fidler of Reading, the first of which was a much coveted gold medal and two guineas. Here Mr. Lye used all his strength, his six kinds being practically unbeatable anywhere. He had Autumn Giant Cauliflowers, Giant Zittau Onions, Perfection Tomatoes, Ne Plus Ultra Runner Beans, a perfect sample; Wright's Grove White Celery, beautifully blanched; and very handsome Satisfaction Potatoes. Mr. Kneller was second with immense Anglo-Spanish Onions, Perfection Tomatoes, good Cauliflowers, too large, but very handsome; Intermediate Carrots, Satisfaction Potatoes, and Clayworth Prize Celery. Mr. Best, gardener to Mrs. Chute, The Vine, was third; and Mr. Bowerman, generally having the same varieties, was fourth.

Messrs. Sutton & Sons of Reading did not offer prizes for collections, but gave thirty-six prizes for twelve kinds of vegetables in separate classes—a liberal total, including a class for Melons, of £11 14s. In most of these single dish classes there was good competition and high quality. It is worthy of mention that varieties were left absolutely open. Beet came first with sixteen lots, Mr. Bowerman being first with rather too large and a little coarse samples of Sutton's Blood Red. Mr. Waite was second with smaller but very handsome samples of the same varieties. Mr. Best was third. With Carrots, of which twelve lots were staged, Mr. Bowerman was again first with very fine and even shaped, but hardly sufficiently smooth sorts of New Intermediate; Mr. Kneller coming second with rather smaller, but singularly handsome examples; Mr. Lye was third, both having the Intermediate. Of Celery only six lots were staged, Mr. Waite coming first with Sutton's Solid White, very good; Mr. Pope being second with Sutton's Al Pink variety, and Mr. Best third with Sulham Prize. Cauliflowers were few also, five lots of three heads being staged. Mr. Best was first; Mr. Frost, gardener to W. A. Palmer, Esq., Reading, second; and Mr. Pope third, all with Autumn Mammoth. Leeks were very good, and here, oddly enough, the Judges, who in another single dish class had placed the Long Prizetaker Leeks before the dwarf thick Onion-rooted Lyon, reversed their decision, placing the thick Lyon shown by Mr. Pope, about 5 inches of the stems blanched, before the beautiful Long Prizetaker from Mr. Lye, which had 9 inches of blanched stems. Mr. Kneller was third. There were twelve bunches of six Turnips, Mr. Lye coming first with handsome Snowball; Mr. Bowerman was second, and Mr. Booker, gardener to W. B. Mouch, Esq., third with the same variety. There were twelve lots of six Onions in competition, the prize lots standing out a long way before the others. Mr. Kneller was first with very fine but rather spotted samples of Sutton's Exhibition, Mr. Lye being second with the same variety but brighter, Mr. Pope coming third with a capital sample of Improved Reading. Mr. Turton, gardener to J. Hargreaves, Esq., Maiden Erlegh, had of ten lots the finest Cos Lettuces in Sutton's Mammoth White, Mr.

Waite coming second with the same very fine variety, and Mr. Kneller was third. With Cabbage Lettuces Mr. W. Palmer of Andover, Mr. Turton, and Mr. Lye took the prizes, all having that very fine variety Sutton's Favourite, which has slightly curled leafage. In the class for six Parsnips, of which kind fourteen lots were staged, Mr. Maxim, gardener to the Hon. Miss Lefevre, Heckfield Place, was first with very fine but rather rough skinned Student, Mr. Pope coming second with very handsome samples, and Mr. Booker was third. Tomatoes brought more moderate competition. The awards were surprising, as the first and second prize fruits were big and had large brown centres, both serious defects. Mr. Callender, Henley, was first; and Mr. Mackay, Penn, was second; Mr. Waite, who had a beautiful dish of Perfection, coming third. There were fourteen dishes of Peas. Mr. Goodman, gardener to Miss Hammersley, Marlow, had Duke of Albany for first; Mr. Bowerman was second with Main Crop Marrow; Mr. Pope was third. The latter was, however, first in the Runner Bean class with somewhat large Al, Mr. Bowerman coming second, and Mr. Lye third with the same variety, but all a trifle too old. A truly beautiful dish from Mr. Kneller, younger and more perfect, was oddly overlooked. For prizes offered by Messrs. John Sharpe & Sons the competition was poor. Mr. Waite had the best Tomatoes and Mr. Kneller the best Carrots.

Such a remarkably fine lot of vegetables as was here staged deserved better treatment than exposure to wind and rain, and would have made a splendid show if properly arranged in a large tent. Of Tomatoes shown, not for competition, there were fine lots from Mr. Churchman, Nottingham; Mr. F. Lees, Reading; and Mr. Bradley, Tilehurst. Cucumbers, in the Society's classes, produced a truly beautiful brace of Suttons' Matchless from Mr. Mortimer, Farnham, who was first, Mr. Smeller being second with Telegraph.

Fruit was remarkably good, as it always is at Reading. Mr. Maxim had the best collection of eight dishes, having good Mrs. Pince and Golden Queen Grapes, Sea Eagle Peaches, Lord Napier Nectarines, &c. Mr. Goodman, who was second, was weak in Grapes, but had capital other fruits. Mr. Smith, gardener to M. Overy, Esq., Badgemore, was first with six dishes, having heavy Alicante and Muscat Grapes, Barrington Peaches, Elruge Nectarines, &c. Mr. Johnson, gardener to A. Gilliat, Esq., Slough, was second. Crawford's Early Peach was with him wonderfully coloured. Mr. Waite was third. Mr. Osman, Otter-shaw Park, had the best three bunches of Black Hamburgh Grapes, Mr. Turton coming second. Mr. Maxim was first with good clean Alicante in the class for any other black, Mr. J. Pound, gardener to Alfred Sutton, Esq., coming second with the same variety, very fine clusters. Mr. Smith had the best white Grapes in well coloured Muscat of Alexandria, Mr. Pound again being second with fine bunches, hardly ripe. These same exhibitors came first and second in the class for any other white, having good Golden Queen and Buckland Sweetwater respectively. With six dishes of dessert Apples Mr. Turton was first, having handsome rich-coloured Strawberry, Worcester Pearmain, Duchess's Favourite, Irish Peach, Astrachan, and Kerry Pippin. Mr. Paxton, gardener to Hon. C. P. Irby, Taplow, was second. With six dishes of kitchen Apples Mr. Turton and Mr. Dockerill, gardener to G. W. Palmer, Esq., M.P., Reading, were placed equal first, so very fine and even were their samples. The former had Lord Suffield, Warner's King, Saltmarsh's Queen, Peasgood's Nonesuch, Waltham Abbey Seedling, and Ecklinville; the latter had Peasgood's, Bramley's Seedling (very fine), Emperor Alexander, Stirling Castle, Ecklinville, and Lord Suffield. Mr. Goodman was placed second. Pears were of moderate quality. Mr. Paxton had the best dish of Figs, and Mr. Bowerman with Barrington, a superb dish of Peaches. Mr. Bowerman was also first with very fine Humboldt Nectarines, Mr. Pound coming second with Pineapple. Mr. Waite had the best three dishes of Plums, and Mr. Dockerill had the best brace of Melons and the best single Melon with Hero of Lockinge, though much over-ripe, the flesh being soft and pulpy.

Cut flowers were very fair. Mr. Mortimer and Messrs. Cheal & Sons had the best double Dahlias, and the latter the best bunches of single Dahlias. Messrs. Perkins & Sons of Coventry had beautiful Roses, Mr. Turton the best Zinnias, Mr. Such, Maidenhead, beautiful Phloxes, Mr. Phippen very fine wreaths and crosses. Mr. Finch had a grand lot of bunches of cut flowers, Mr. Best good Asters. The length of the report necessitates leaving plants unnoticed beyond saying that, whilst some were good, groups were poor.

WIRRAL.—AUGUST 31ST AND SEPTEMBER 1ST.

THE fiftieth annual Exhibition of the above Society was held in connection with the Birkenhead and Wirral Agricultural Show in the Bidston Show Ground. Unfortunately for the Society the weather on the first day was very wet, and a great decrease in gate money was the result; but on the second day the weather was decidedly better, and the attendance excellent. As regards entries, which numbered 850, they were far in advance of former years, and an excellent show in every department was the result. Groups and cut flowers were abundant, and of the finest description. Fruit was very fine, and vegetables superb.

For five foliage and the same number of flowering plants Mr. A. Brown, gardener to Geo. Webster, Esq., Claughton, was first with excellent examples, and throughout the whole of the classes the same exhibitor held his ground, gaining first prizes for three stove and greenhouse plants, three foliage plants, three Ferns, three Lycopods, one greenhouse and one stove plant in bloom, one foliage plant, one Fern, one Fuchsia, twelve Asters, six Asters, twelve varieties of cut flowers,

six dessert Apples, and six Plums, the more credit being due to him owing to strong competition in some of the classes.

In the group arranged for effect Mr. S. Haines, gardener to Macgregor Laird, Esq., was deservedly first. The prizes for one Palm, table plants, Gladioli, and six varieties of cut flowers (indoor), and the same number of outdoor were awarded to Mr. J. Bounds, gardener to A. L. Jones, Esq., Oaklands, Aigburth. The prizes for twelve and six Dahlias went to Mr. J. Lee, whilst that for twelve Cacti was awarded to Mr. T. Woolrich, and for six to Mr. J. H. Howell. The classes for twelve and three varieties of outdoor cut flowers, everlasting flowers, and hand bouquets were taken by Messrs. W. B. Burnham, John Wynne, C. J. Proctor, and Wm. Henderson.

In the class for six dishes of fruit Mr. W. Oldham, gardener to J. Beecham, Esq., Ewanville, Huxton, just succeeded in beating Mr. T. Ferguson, gardener to Mrs. Paterson, Rock Ferry, both having splendid dishes; the third place being occupied by Mr. Hannagan, gardener to R. C. Naylor, Esq., Hooton Hall. The best collection of hardy fruits was shown by Mr. C. Worker, gardener to Mrs. Blomfield. The Grape classes were strongly contested, the prizes for Hamburgs and any other black going to Mr. Bramball, gardener to G. C. Sinclair, Esq., with superb bunches. The prizes for Muscat of Alexandria and any other white were taken by Messrs. J. Heap and J. Downham, gardener to E. H. Harrison, Esq., Eastham. For six Peaches Mr. Ferguson was first with a magnificent dish of Sea Eagle; and six Nectarines, very fine fruits of Pineapple, secured Mr. Oldham the first position. The prizes for scarlet and green-flesh Melons went to Messrs. Heap and Ferguson, the latter winning in the class for six Jargonelle Pears, and Mr. T. Watkinson in that for any other variety. Mr. C. Worker won with Green Gage Plums.

Vegetables in the local class, eight varieties, were best shown by C. J. Proctor, Esq.; and for the same number, open, by Mr. T. Smetham, Leaton Knolls, Shrewsbury, with splendid exhibits; the latter also winning first places with two Cauliflowers, two roots of Parsley, six Parsnips, and six Carrots. Mr. T. Woolrich won with twelve coloured Potatoes (round), green and red Cabbages. Mr. W. Lancelotte was first with twelve white (round) and twelve kidney (coloured) Potatoes, twelve Shallots, and six Beetroots. The prizes for twelve white kidney Potatoes, twelve Leeks, twelve spring Onions, French Beans, Scarlet Runners, Peas, Cucumbers, Celery, and Vegetable Marrows were awarded to Messrs. Pigott, Dickson, Worker, Bennett, Burnham, Clarke, Condon, Leach, and Lawton. Mr. J. Lee secured that for twelve Tomatoes.

Mr. Henry Middlehurst, Manchester Street, Liverpool, was awarded the gold medal of the Society for the best collection of garden and farm seeds and produce; Dicksons (Ld.), Chester, receiving the silver medal. In the classes for bees Mr. P. Harbordt, Covent Garden Seed Stores, Liverpool, was most successful.

NATIONAL DAHLIA SOCIETY AT THE CRYSTAL PALACE, SEPTEMBER 2ND AND 3RD.

Is the Dahlia losing its popularity? One might be tempted to think so from the little interest that appeared to be taken in the opening of the National Show on Friday last. There were very few people present, and no signs of the lively interest that used to be manifested in the flowers. Or is it that the Show suffered from the absence of the measures usually taken to make the Sydenham gatherings known to the gardening fraternity? There may be something in this. The average visitor is apt to let a fixture slip by unless he has a special reminder of its coming. If he is accustomed to have his memory refreshed by advertisements it is not unnatural for him to think that in their absence there is nothing to advertise, and so the shows suffer. Whatever may be the cause, exhibitors, judges, and reporters had matters pretty much to themselves on the first day of the Show.

The flowers were not quite up to the usual standard so far as size is concerned, the Show and Fancy blooms ruling somewhat small throughout, but in other respects there was nothing to find fault with. Messrs. Keynes, Williams & Co. were prominent in the trade classes, while in the amateurs' section that well-known exhibitor, Mr. J. T. West, and Mr. Sidney Cooper had very fine blooms. Cactus and Decorative varieties were very finely shown, and Pompons were good. Singles were somewhat scarce, but the quality was excellent. We have seen them larger, but that is no advantage.

SHOW AND FANCY.—There were four stands of sixty blooms, Show and Fancy intermixed, in the leading trade class, the best being that of Messrs. Keynes, Williams & Co., Salisbury, whose flowers were very bright and even, although hardly so heavy as some previous winning stands in this class have been. The varieties were as follows:—Back row: Harrison Weir, Rebecca (self), Mrs. Kendal (a splendid bloom), James O'Brien (also a fine example), Shirley Hibberd, Mr. Glasscock (a large and heavy flower), Duchess of Albany, Colonelist, Royal Queen, J. N. Keynes, R. Dean, Rebecca, Rev. J. B. M. Camm, Seedling, John Hickling, Buffalo Bill, Gloire de Lyon (very fine), Geo. Hurst, Arthur Ocock and William Rawlings. Middle row: Thos. Hobbs, J. T. Saltmarsh, J. T. West, Imperial, Matthew Campbell, J. C. Vaughan, Robina, James Cocker, Dandy, James Huntley, a sport, Alice Emily, T. S. Ware, Maud Fellowes, Willie Garratt, a seedling, Duke of Fife, William Powell, Mrs. J. Downie, and Harry Keith. The first eight were somewhat undersized but otherwise good in every way. Front row: Mrs. Langtry, Mrs. Stancomb, Rosetta, Comte de la Saux, Crimson Globe, Comedian, Eclipse, Chorister, Arthur Rawlings, Miss Fox, John Walker, Henry Bond, Miss Cannell, a sport, Mrs. Gladstone, Sunset, Hon. Mrs. Wyndham,

Nellie Cramond, Frank Pearce, and a seedling. Mr. Charles Turner, Royal Nurseries, Slough, had an extremely beautiful collection, the flowers being in perfect condition. They lost points in the matter of size however. Amongst the best were Maud Fellowes, a seedling of very much the same character, but a shade deeper in colour, Agnes, Grand Sultan, Mrs. Slack, and Duchess of Albany. Mr. Arthur Rawlings, Romford, was third with fresh but somewhat uneven flowers, many being very small, and Mr. M. V. Seale, Sevenoaks, fourth.

There were four stands of forty-eight blooms, and Messrs. Keynes, Williams & Co. were again first. Lack of size was very noticeable in this stand, but in other respects there was nothing to cavil at, for the blooms were smooth, even, and remarkably clean. The following were the varieties represented:—Back row: Jas. O'Brien, Pelican, Mr. Glasscock, Harrison Weir, Gloire de Lyon, Colonist, R. Dean, Duchess of Albany, Mrs. Foreman, John Hickling, Mrs. Langtry, Jas. Cocker, Rev. J. B. M. Camm, Royal Queen, William Powell, and William Rawlings. Middle row: Hon. Mrs. Wyndham, Matthew Campbell, a sport, Thos. Hobbs, Buffalo Bill (very good), Mr. Spofforth, Maud Fellowes, Rosetta, Mrs. J. Downie, Miss Barber, J. N. Keynes, Mrs. Langtry, Shirley Hibberd, J. T. West, and two seedlings. Front row: Jas. Huntley, J. B. Service, Diadem, John Walker, Miss Cannell, J. C. Vaughan, Frank Pearce, Nellie Cramond, Comedian, Victor, Crimson Globe, Thos. Goodwin, Willie Garratt, Imperial, Miss Fox, and Mrs. Gladstone. Mr. Turner followed with neat, well-coloured blooms; Mr. Rawlings was third, and Mr. Seale fourth, so that this class was an exact repetition of the other.

Four competed again in the class for thirty-six blooms, and this brought out one of the best stands in the Show, that of Messrs. Saltmarsh & Son, Chelmsford. The flowers were not of the largest size, but they were far from being small, while they were excellent alike in freshness and finish. The varieties were as follows:—Back row: Perfection, W. Rawlings, Harrison Weir, James Cocker, Henrietta, Rev. J. Goodday, Maud Fellowes, Harry Veitch, Rev. J. B. M. Camm, Hugh Austin (self), Mrs. Saunders, and Mr. Glasscock. Middle row: Shirley Hibberd, T. J. Saltmarsh, H. Walton, J. Walker, W. Keith, Frank Pearce, A. Ocock, R. T. Rawlings, Mrs. J. Downie (self), Mrs. Saunders, W. Garratt, and J. T. West. Front row: Mrs. Langtry, Crimson Globe, Miss Barber, T. S. Ware, Constancy, Lustrous, Lady Herbert, Mr. Harris, M. Campbell, Lady Chelmsford, Mrs. Gladstone, and T. W. Girdlestone. Mr. G. Humphries, Kingston Langley, Chippenham, was a very close second indeed. There could not have been more than a point or two between the two stands. His flowers were of medium size, even, and very fresh. Mr. S. Mortimer, Rowledge, Farnham, was third; and Mr. John Walker, Thame, fourth. Five competed with twenty-four blooms, and the stands comprised a considerable number of fine flowers. Mr. Humphries was first with an admirable stand, staging Harry Keith, J. Walker, Buffalo Bill, W. Powell, W. Rawlings, Mrs. Gladstone, Purple Prince, H. Walton, R. T. Rawlings, J. Cocker, Colonist, F. Pearce, Duchess of Albany, George Barnes (self), Salamander, Arthur Rawlings, Miss Cannell, Volunteer, Mrs. Kendal, Victor, H. Bond, Mrs. Langtry, Mrs. Saunders, and Mrs. Downie. A very good stand from Messrs. Saltmarsh & Son, comprising neat, fresh blooms, secured the second prize; the third went to Mr. Mortimer; and the fourth to Mr. J. Walker. Messrs. Cheal & Sons, Lowfield Nurseries, Crawley, had the best out of the four stands of twelve, good sized, clean, and brightly coloured examples of Colonist, Crimson King, J. T. West, Lord Chelmsford, Matthew Campbell, Mrs. Foreman, John Walker, Mrs. P. Mackenzie, Mrs. Gladstone, Mrs. Langtry, Nellie Cramond, and Mrs. Jefford securing them the award. Mr. J. R. Tranter, Henley-on-Thames, was second with good flowers; Mr. H. Harris, Chelmsford, third; and Mr. J. Wood, Burton-on-Trent, fourth.

The amateurs mustered strongly in the principal class reserved for them, that for twenty-four blooms, eight competing. The successful exhibitor was Mr. J. T. West, gardener to W. Keith, Esq., Cornwalls, Brentford, and his flowers, though noticeably under the average in point of weight, were smooth, even, fresh, and well coloured. His varieties were as follows:—Back row: R. T. Rawlings, Harry Keith (very fine), Queen of the Belgians, Arthur Rawlings, J. T. West, W. Rawlings, Mrs. Gladstone, and Duke of Fife. Middle row: Glow-worm, Mrs. Langtry, Shirley Hibberd, Mrs. Saunders, Lustrous, W. Powell, Rev. J. Goodday, and Mrs. J. Downie. Front row: Prince of Denmark, Crimson Globe, Harrison Weir, Prince Bismarck, Mrs. N. Halls, Frank Pearce, Willie Garratt, and a seedling. Mr. A. Ocock, gardener to Mrs. McIntosh, Havering Park, Romford, was second with fresh even flowers, forming an admirable stand. Mr. T. Hobbs, St. Mark's Road, Easton, Bristol, was third; and Mr. T. Austiss, Brill, Bucks, fourth.

There were ten stands of twelve blooms, Show varieties only, Mr. Sidney Cooper, The Hamlet, Chippenham, winning with a splendid stand, one of the best, in fact, in the Show. The varieties were Maud Fellowes, Goldfinder, Duchess of Albany (self), Victor, Henry Bond, Harry Keith, Wm. Rawlings, R. T. Rawlings, J. T. West, Mrs. Saunders, T. J. Saltmarsh, and Reliance. Mr. T. Vagg, gardener to J. Theobald, Esq., M.P., The Bedfords, Havering, Romford, was second with smaller but very even neat blooms; Mr. G. Boothroyde, Red Hill, Havant, third; and Mr. Wm. Hopkins, Cross Hands, Pilning, Bristol, fourth. Seven competed with six blooms, Mr. John Cozens, Langley Burrell, Chippenham, winning with Colonist, J. T. West, Victor, John Walker, Mrs. Gladstone, and Picotee in splendid condition; Mr. J. Gilbert, Brooklands, Freshwater, Isle of Wight, was second with neat fresh flowers; Mr. W. Wheeler, 53, Bell Street, Henley-on-Thames, third; and Mr. Jas. Strudwick, Silver Hill, Hastings, fourth.

The class for twelve Fancies brought five stands, the best being a beautiful one from Mr. Sidney Cooper, in which the flowers were in splendid condition. The varieties were Rebecca, Mrs. Downie, Prince Henry, Salamander, Lottie Eckford, Mrs. Saunders, Duchess of Albany, John Cooper, Mandarin, Comedian, Dorothy, and Peacock. Mr. West was second, also with an excellent stand, but several points in the rear of Mr. Cooper. Mr. Ocock was third, and Mr. Mist, Collingwood, Ightham, Sevenoaks, fourth. The best of ten stands of six came from Mr. Boothroyde, who showed Matthew Campbell, Rev. J. B. M. Camm, Dorothy, Mrs. Saunders, Frank Pearce, and Comedian in excellent condition. Mr. Vagg was a very good second; J. Gurney Fowler, Esq., Glebelands, South Woodford, third; and Mr. W. Wheeler fourth.

The single variety classes were well filled. Ten competed with six of a dark variety, Mr. Ocock being first with the Rev. J. Goodday, Mr. Humphries second with Arthur Rawlings, and Messrs. Saltmarsh & Son third with W. Rawlings. There were also ten stands of light varieties, yellow excluded. Here Mr. J. Walker, Thame, was first with a beautiful stand of John Walker, Mr. Humphries second with Mrs. Gladstone, and Mr. Seale third with the same variety. There were five stands of yellows, Mr. Seale winning with an excellent stand of R. T. Rawlings, Messrs. Saltmarsh & Son second with the same variety, and Mr. West third. Messrs. Saltmarsh & Son had the best of three stands of tipped flowers, winning with Mrs. Saunders, Mr. Turner second with the same variety. The third prize was not awarded. Mr. Humphries won from four opponents with striped flowers, showing Mrs. John Downie splendidly. Mr. Seale was second with a fine stand of the same variety, and Messrs. Saltmarsh & Son third with Frank Pearce. There were seven stands of edged flowers, Mr. Mortimer being first with Henry Walton, Messrs. Saltmarsh and Son second with J. T. West, and Mr. Arthur Rawlings third.

CACTUS AND DECORATIVE.—Cactus and Decorative varieties in bunches of six made an extremely beautiful display. Messrs. Cheal and Son had a delightful stand of eighteen in the chief trade class, and were placed first, their varieties comprising Lancelot, Robt. Maher, Josephine (new), dark velvety crimson; St. Catherine, Black Prince, Amphion, Mrs. Douglas, Juarez, Harry Freeman, Beauty of Arundel, Charming Bride, Lady Marsham, Marchioness of Bute, Edith Cheal (new), dark velvety crimson; Mrs. Hawkins, Duke of Clarence, Rayon d'Or, and Honoria. Mr. Turner also had a beautiful stand, in which Panthea, Duke of Clarence, Beauty of Brentwood, and Honoria were conspicuous. Messrs. Keynes, Williams & Co. won with twelve varieties, having a splendid stand, albeit the bunches were packed a little too close together. Their varieties were Juarez, Amphion, Miss Violet Morgan (a delicate blush seedling with white centre), Countess of Pembroke, Lancelot, Countess of Radnor, Apollo (a bright crimson scarlet seedling), Duke of Clarence, Mrs. Basham, Bertha Mawley (a brilliant red seedling with carmine suffusion), Countess of Gosford, and one unnamed, apparently Beauty of Brentwood. Messrs. J. Burrell & Co. were second with large flowers, but one or two varieties somewhat past their best, Messrs. Paul & Son, Cheshunt, third, and Mr. M. V. Seale fourth. The class for twelve varieties, Cactus only, was a beautiful and interesting one. Messrs. Keynes, Williams & Co. were first with a delightful stand, composed of Duke of Clarence, Kaiserin, Baron Schröder, St. Catherine, Kynerith, Progress, Delicata, Apollo, Daphne, Countess of Gosford, Bertha Mawley, and Countess of Radnor, lemon, deeply suffused with rosy lilac. Messrs. Cheal & Son were second with Kynerith, Prince Christian, Beauty of Eynsford, and Delicata, very good. Mr. M. V. Seale was third.

Cactus and Decorative varieties were also well shown by the amateurs. Mr. West won with twelve varieties in bunches of six, showing Joseph Chamberlain (a rich scarlet seedling), Baron Schröder, Stebbing Wheeler, Black Prince, Kynerith, Marchioness of Bute, a delicate mauve seedling, Millie Sculpham, Mrs. Douglas, a lemon coloured seedling Mrs. Keith, and Lancelot. Mr. Strudwick had the best of the other two stands, and the third prize fell to Mr. Mist. There were ten stands of six and three blooms of each, Mr. Wm. Hopkins winning with Duke of Clarence, Robert Maher, St. Catherine, Cannell's Favourite, Robert Cannell and Delicata, Robert Cannell being the best ornament of the stand. Mr. Sydney Cooper was second, Mr. Peter Perry, gardener to J. C. Tasker, Esq., Middleton Hall, Brentwood, third, and E. Mawley, Esq., Berkhamstead, fourth. Mr. Osman, South Metropolitan District Schools, Sutton, was the only exhibitor of six varieties in bunches of six for Messrs. Cannell's prize and was placed first for Constance, Mrs. J. Douglas, Juarez, Lord Lyndhurst, Lady Marsham, and Germania Nova, the latter a distinct Aster-like flower.

POMPONS.—These were splendidly shown in bunches of ten, twenty-four varieties by Mr. Turner in the nurserymen's section, the flowers being delightfully clear, and not too large. The varieties were Marion, Lady Blanche, Isabel, Mabel, Fairy Tales, Darkess, H. E. Searle, Little Lady, Phoebe, Favourite, Golden Gem, Admiration, Mars, White Aster, Boule d'Or, Ringdove, Whisper, Cupid, E. F. Jungker, Ariel, Gipsy Queen, Amber, and two seedlings. Messrs. Keynes, Williams & Co., were a very close second, their flowers being good in all points; and Messrs. Cheal & Sons third. Mr. Seale had a splendid stand of twelve, showing charming bunches of E. F. Jungker, Grace, Admiration, Red Indian, Favourite, Leila, Isabel, Dora, Phoebe, Whisper, and Lilian. Mr. Humphries had an excellent stand, and was placed second, the remaining award going to Messrs. Burrell & Co.

Pompons in bunches of ten, six varieties, were best shown by Mr. West in the amateurs' section. He was placed first for neat examples

of Tommy Keith, Sunshine, Mary Kirk, Eva, Little Sweetheart, and Gipsy, all seedlings. Mr. Strudwick was a very good second, Mr. Osman third, and Mr. West fourth. Mr. Cooper won from five others in the class for six bunches of six blooms each, with E. F. Jungker, Lorna Doone, Whisper, White Aster, Leila, and Phoebe. Messrs. R. Burgin, Eynesbury, St. Neots; C. Stew, Alveston House Gardens, Addiscombe; and P. Perry, taking the remaining prizes.

SINGLES.—These were bright, fresh, and beautiful, losing nothing by not being very large in size. The first prize in the trade class for twenty-four varieties, in bunches of twelve, went to Messrs. Cheal and Sons, who had a delightful stand, the varieties being Annie Hughes, Lowfield Beauty, White Queen, Jas. Scobie, Mrs. Bowman, W. C. Harvey, Miss Linnaker, Evelyn, Miss Roberts, Amos Perry, Marion Hood, Duke of York, Miss Earnshaw, Cleopatra, Duchess of Fife, Lady Whitehead, Northern Star, Duchess of Albany, Formosa, Lady Helen, Mrs. W. C. Harvey, Victoria, Duchess of Anhalt, and Little Snow White. Mr. Seale was second with a very clean, fresh stand, and Mr. E. F. Such, Maidenhead, third. Mr. Humphries won with twelve, Florrie Fisher, White Queen, Mrs. Barker, Maude, James Scobie, Amos Perry, Miss Ramsbottom, W. C. Harvey, Victoria, Miss Roberts, Duchess of Fife, and Northern Star well representing him. Messrs. Paul & Son, Cheshunt, were a good second.

Singles were not very extensively shown by the amateurs, only two competing with six varieties in bunches of ten, but both were good stands, and that of Mr. T. W. Girdlestone was a beautiful one. The varieties were Annie Hughes, Jack, Yellow Satin, Kitty, Little Snow White, and Florence. Mr. Osman was second. Mr. Mawley won with bunches of six, having Amos Perry, Mrs. J. Coninck, Miss Henshaw, Maimé, Miss Roberts, and Northern Star. Mr. Burgin was second, and Mr. Stew third. Mr. Girdlestone was first with twelve varieties in sixes, the prizes in this class being given by Messrs. Cheal & Sons. He had Marion Terry, Evelyn, Sunningdale White, Mikado, Awdry, Sunningdale Scarlet, Yellow Satin, Bessie Hutton, Fred Leslie, Dearest, Marion Hood, and Leila. Mr. Osman was second.

CERTIFICATED FLOWERS.—First-class certificates were awarded to the following:—Cactus varieties: Countess of Radnor (Keynes, Williams and Co.) lemon, deeply suffused with rosy lilac; Countess of Gosford, pale yellow, suffused with orange, pointed florets; Bertha Mawley, brilliant red, with carmine suffusion, very large, but of good Cactus type; May Pictor (Humphries) clear pale yellow, with pointed florets, large and fine; and Delicata (Ware) soft blush, excellent Cactus type. Singles: Duke of York (Cheal) bright scarlet, smooth, well-rounded bloom of medium size; Sunningdale Scarlet (Girdlestone) deep scarlet, even, symmetrical, well-rounded bloom of medium size; Yellow Satin (Girdlestone) clear pale yellow, a beautifully moulded flower; and Kitty (Girdlestone), the basal portion of the petals white, the apical portion deeply suffused with rosy mauve, a charming variety. Pompons: Gipsy Queen (Turner) purplish maroon, flowers not too large; Amber (Turner) amber, deepening to orange in the centre, very neat; Bacchus (Keynes, Williams & Co.) bright crimson scarlet, shapely and neat; and Eva (West) a rosy red seedling, with paler lower florets.

MISCELLANEOUS.—Prominent amongst the miscellaneous exhibits was a superb group of Cactus and Pompon Dahlias from Messrs. H. Cannell & Son, Swanley, which was beautifully set up. Of the former section Marchioness of Bute, Ernest Cannell, Robert Cannell, Mrs. Rolfe, Mrs. Keith, Beauty of Arundel, Professor Baldwin, Pride of Swanley, Glory of Swanley, and Princess Christian were conspicuous. The Swanley firm also had an extensive display of double Begonias delightfully arranged. Amongst these was a beautiful bright crimson seedling well worthy of a name. Messrs. J. Peed & Son, West Norwood, had boxes of Dahlias of the different sections, also a collection of well-grown table plants, and a large bank of various foliage plants. Mr. E. F. Such, Maidenhead, had a collection of Dahlias and miscellaneous hardy flowers. Messrs. J. Cheal & Son had a large collection of Dahlias in different sections, also Begonias and foliage of various ornamental trees. Messrs. Paul & Son, Cheshunt, were represented by a large and brilliant display of Roses and various hardy flowers. Messrs. Pitcher & Manda, Hextable, Swanley, had a group of hardy flowers in which Liliiums figured prominently. Messrs. Reid and Bornemann, Sydenham, had a large mixed group in which Chrysanthemums were freely utilised. Lobelia cardinalis splendens Queen Victoria was used very effectively, its brilliant colour telling well. Mr. T. S. Ware, Tottenham, contributed a very extensive group of Dahlias, comprising single, Pompon, Cactus, and Show varieties. Delicata, a soft blush Cactus of excellent type, was very beautiful; Oban, buff suffused with rose and salmon is a distinct shade; John Bragg, a very dark and velvety purplish crimson, was also noteworthy. Amongst the Pompons was Mrs. Walter Besant, buff edged with bright purple; and Rose Perry, buff edged with deep rose, both neat flowers.

NATIONAL CHRYSANTHEMUM SOCIETY.

SEPTEMBER 7TH AND 8TH.

THE early meeting of the National Chrysanthemum Society at the Royal Aquarium brought together a fairly extensive and very attractive Show. Early Chrysanthemums were represented in considerable numbers and variety. Dahlias were abundant, and there was an excellent display of Gladioli, which, if not very numerous, were exceedingly good. Special interest was attached to the meeting by reason of Chrysanthemum blooms frozen in ice, and sent from Auckland, New Zealand, by Mr. Earland, being exhibited. They were seedlings that had, we understood, been exhibited in New Zealand in April—a spring month with us, but

an autumn one at the Antipodes. Eight blooms were sent, each being frozen in a large meat tin packed in a stout case. Though one or two were apparently discoloured they were in excellent condition. There were both Japanese and incurved varieties, and the blooms were excellent. There were six varieties, comprising white, rose, and yellow, and they were sent under the names of Tarawera, Lady Bell, Rimutaka, J. J. Kerslake, Tongarire, and Zealandia. The last-named appeared to be a good incurved variety resembling Alfred Salter. So far as could be judged they were good varieties, though not an advance on our leading sorts. It would, no doubt, interest our New Zealand friends if the National Chrysanthemum Society returned the compliment in November by sending a case of good prize blooms of the standard varieties most largely grown in this country.

Turning to the general exhibits there were two groups of Chrysanthemums, any varieties, and the first prize one was that of Mr. Vince, gardener to the London Cemetery Co., Highgate. There was not much variety about it, Madame Desgranges and George Wermig being chiefly employed, but they were judiciously blended, and the group was well finished. Mr. N. Davis, Camberwell, was second with a group somewhat brighter in tone. Messrs. Reid and Bornemann had a handsome group not for competition. The first prize for a collection of cut blooms in bunches went to Mr. R. Owen, Maidenhead, in whose beautiful collection Norbert Puvrez, Canari, Golden Shah, Golden Shower, J. B. Duvoy, Lyon, Mrs. Burrell, Précocité, and René Chandon de Briailles were very noteworthy. Mr. E. F. Such was second with Early Blush, Goldsmith, Mr. Selby, Golden Fleece, and others very brightly represented. Mr. W. Wells, Earlswood, Redhill was third. Mr. H. Neary, gardener to the Rev. R. W. Powell, Hornsey, won with six plants, the varieties being Madame Desgranges, Mrs. Burrell, Mrs. Hawkins, G. Wermig, and Madame Léon Lassalle; the first three were very good, and Madame Desgranges was a beautiful plant carrying upwards of forty fine blooms.

Mr. Turk, gardener to T. Boney, Esq., Highgate, showed Madame Desgranges splendidly, and was placed first for twelve blooms, Mr. J. Wright, Middle Temple Gardens, being second with smaller but good flowers. Mr. Turk also won with twelve of any other large flowering variety, showing a very fine stand of Mrs. Burrell. Mr. Neary was first with Pompons, having Mrs. Cullingford, Mrs. Davis, Madame Léon Lassalle, Lyon, and Nanum, very good. Miss Debenham, St. Albans, was second, and Mr. Davis third. Mr. Beech, gardener to L. Seligman, Esq., was first for six bunches of Madame Desgranges, and Mr. Wright second; while for six of any of the yellow forms of that variety Mr. Beech won with G. Wermig.

In the principal class for Dahlias, that for sixty varieties, Messrs. Keynes, Williams & Co., Salisbury, were first with very good medium-sized flowers, though perhaps hardly so fresh as those at the Crystal Palace. Jas. Cocker, Matthew Campbell, Duchess of Albany, Thos. Hobbs, Mr. Spofforth, Rebecca, Jas. O'Brien, and Maud Fellowes were a few of the best. Mr. M. V. Seale, Sevenoaks, was second with much smaller blooms, and Messrs. Heath & Son, Cheltenham, third. Messrs. Keynes, Williams & Co., who are very strong this year, also won with thirty-six, Mr. A. Rawlings being second, and Mr. M. V. Seale third. Mr. Humphries won with twenty-four, his flowers being very bright and fresh. Mr. Mortimer, Farnham, was second, and Messrs. Saltmarsh and Son, Chelmsford, third. Mr. Humphries won again with twelve, Messrs. Saltmarsh being second, and Mr. Mortimer third. Mr. Vagg, gardener to J. Theobald, Esq., M.P., won with six. In the amateurs' class for twenty-four Mr. J. T. West was first with an excellent stand, Mr. A. Ocock being second, and Mr. W. Mist third. Messrs. West and Ocock were also first and second for eighteen. With twelve Mr. Vagg won, having a fine stand, J. G. Fowler, Esq., being second, and Mr. G. Arnold third.

Cactus varieties, twelve bunches, were splendidly shown by Messrs. Cheal & Sons, Crawley, and they won somewhat easily, Mr. Seale being second, and Messrs. Burrell & Co., Cambridge, third. Mr. Hopkins was first with six, Messrs. J. T. West and E. Mawley following. Messrs. Cheal & Sons also had a beautiful stand of singles, for which they were placed first. Mr. Seale was second with a delightful stand. Mr. T. W. Girdlestone won with twelve, a beautiful stand, and Mr. Humphries was second, the remaining prize going to Mr. Osman. For six bunches the prizes went to Messrs. Mawley, Osman, and Kendall.

Messrs. Cheal & Son had a very fine stand of twenty-four Pompons, and deservedly received first prize; those for twelve going to Messrs. Humphries, Seale, and Burrell. Mr. West showed best amongst the amateurs; Messrs. Osman and Mist following.

Gladioli were very fine. Mr. Lindsell of Rose-growing fame had a beautiful stand of twelve. Le Vesuve, Atlas, Baroness Burdett Coutts, and Dalila were splendid spikes. He was placed first, and Mr. W. H. Fowler second, the latter also showing remarkably well. The latter also had a large collection, in which there were some excellent spikes; and a grand collection came from Messrs. Burrell & Co.

Messrs. Laing & Sons had a bright display of hardy flowers, several boxes of Roses, and Begonias, also thirty dishes of fruit. Messrs. Keynes, Williams & Co. exhibited a stand of new Cactus Dahlias. Mr. G. Humphries had blooms of his new Dahlia Mary Pictor. Mr. R. Dean contributed a collection of dwarf and French Runner Beans. Messrs. Collins Bros. & Gabriel had a box of Challenger Tomato. Messrs. W. Cutbush & Son had a large group of hardy flowers, as also had Messrs. Pitcher & Manda, and Mr. E. F. Such sent a collection of hardy flowers and cut Roses. Mr. Chas. Turner had beautiful stands of seedling Cactus and Pompon Dahlias.



FRUIT FORCING.

Pines.—*Young Stock.*—The nursing and succession plants always present at this time of year, under judicious and suitable management, a healthy and luxurious appearance. This arises from the heat of the days and comparative coolness of the nights, and other beneficial effects of natural agencies, so important in the cultivation of Pines. Such influences, however, are now on the decline, and the weather becomes moister as the sun wanes in power, therefore it is necessary to exercise greater care in the treatment to prevent the growths becoming unhealthfully luxuriant—that is, soft. With this object in view steps should be taken to consolidate the growth by the employment of artificial heat and free ventilation. Plants in a luxuriant condition should have air at 80°, above which ventilate liberally, especially on warm sunny days, always avoiding currents of cold air and sudden depressions of temperature, and closing the house for the day at 80°. Maintain a night temperature of 65°, and 70° to 75° by artificial means in the daytime. The bottom heat should be kept steady at 85° at the base of the pots, or between 80° and 90°. Water only when absolutely necessary, then afford a thorough supply of weak liquid manure warmed to the temperature of the plunging bed. The plants will only need syringing occasionally, and it should be effected early in the afternoon of bright days, and not excessively.

Fruiting Plants.—These must be brought together in a structure suitable for finishing the fruit well. When mixed with succession plants fruited cannot be given the treatment essential to the proper development and perfecting of the fruit. Those on which the fruit is swelling require a liberal amount of heat and moisture, a night temperature of 70° to 75°, and the heat in the daytime should range from 80° to 90°, closing the house at 85° with sun heat, so as to insure a rise of temperature from that source. Avoid, however, a close and very moist atmosphere, as that accelerates the growth of the crowns, and they are usually quite large enough. Although due supplies of nourishment are needed for the proper swelling of the fruit, it must not be given to excess, or the fruit may when cut be found black in the centre.

Peaches and Nectarines.—*Earliest Forced Trees.*—These have now shed their leaves, and will have some rest before being again started into growth. This is absolutely essential to a good start, the trees forced several years consecutively taking their rest at the proper time, and starting again at the usual period. Such trees are far less costly to force than those which have not been forced to ripen their fruit at an early period. It is, however, necessary that early forced trees be kept perfectly clean and the foliage healthy to the last. Trees that have had their leaves smothered by the webs of red spider and their juice abstracted are practically useless for affording a crop of fruit. The pests always infest forced Peach and Nectarine trees, but we have invariably found that the greatest immunity from their attacks was had by instituting the best preventive measures, and eradicating as far as possible the causes of the infestations. Red spider hibernates in cracks and crannies of the trees and house, beneath clods and stones, anywhere and everywhere that affords a safe retreat. Aphides also live through the winter under favouring conditions, and where those are antagonistic they instinctively deposit eggs on the trees and on those parts near to where growths will be produced that are to form the necessary food for their progeny. Scale insects are much the same, all make provision for the perpetuation of their species. The business of the cultivator is to safeguard the objects of his cultivation against fungoid and insect enemies by such preventive measures as are known to be effectual. Whether it be in the egg or developed state, no insect can endure the old and effectual thorough-cleanliness system. It consists in syringing the trees and house in every part with water at a temperature of 140°. This must be used carefully; if too hot it will injure the trees, and if lower in temperature it is innocuous as regards the insects and their eggs. At the proper temperature it speedily destroys the insects and adds the eggs. In bad infestations the application should be repeated once or twice on different days. Then loosen the trees from the trellis, tie the branches in small bundles for facilitating cleansing operations, and wash the woodwork and ironwork with a brush, softsoap and hot water, reaching every angle and crevice. Limewash the walls, adding a handful of sulphur to each pailful (three gallons) of hot limewash, and if required paint the wood and ironwork. Then prune the trees, this will be a light affair if the instructions given in this column from time to time have been intelligently followed, merely thinning the shoots where too crowded or too weak for carrying fine fruits. No shortening will be required, except on long shoots for the production of growth at the right place for extension. Wash the trees with a solution of softsoap, 4 ozs. to a gallon of water, reaching into every crack, hole, or crevice, taking particular care not to dislocate the buds, yet thoroughly wash every part of the trees. Tie the trees to the trellis, and remember that carefully trained evenly balanced trees are a pleasure to the eyes. Let the ties be such that the branches and shoots have sufficient room to swell. Avoid bruising or injuring the trees in any way, for such may result in gum.

Remove the loose surface soil down to the roots, and supply a couple of inches of fresh loam, strong rather than light. Sprinkle a good handful of the following mixture over each square yard of surface; steamed bone meal, Thomas's phosphate powder, and wood ashes from twigs only, all in equal parts by weight, mixed thoroughly. If wood ashes cannot be obtained (and those from large wood are not nearly so good as the others because they consist mainly of lime) substitute sulphate of potash for them. Leave it on the surface, the rains or waterings will wash the mixture in fast enough, and the soil will hold the elements until the trees push active feeders and are provided with leaves to assimilate them. Avoid heavy top-dressings, especially of crude manure, for they only induce exuberance in the trees and prevent air exercising its beneficent influence on the soil. If the lights have been removed keep them off until the borders are thoroughly moistened by the autumn rains; indeed, they need not be replaced until the time arrives for starting the trees. To have fruit ripe with certainty at the end of April or early in May without hard forcing or prejudice to the health and bearing powers of the trees in consecutive years, they should be started early in December, even when the earliest varieties, such as Alexander and Waterloo Peaches, with Advance Nectarines, are grown, the house being closed a fortnight before applying fire heat, except to exclude frost, so that the trees are gradually excited, and respond to the artificial warmth promptly when it is applied about the middle of December. The varieties named may be forced so as to produce ripe fruit in about three calendar months, but we find it is better for the trees and the grower to allow a month or six weeks more time. If fruit is required very early and in the shortest time possible, it ought to be sought from pot rather than from planted-out trees. Pot trees intended for early forcing ought now to be procured; those that have been grown under glass, have the wood thoroughly ripe, the buds well but not over-developed, and which have not been cropped, or only moderately, are the best. They should be top-dressed, be kept cool, but not dry at the roots, until the time arrives for starting them, or they may be plunged in ashes over the rims of the pots in a sheltered position outdoors.

Second Early-forced Trees.—The introduction of the early varieties has made a difference of a month to six weeks in forcing Peaches and Nectarines in having ripe fruit by a given time. By growing the very early and usual forcing sorts together a succession of fruit may be had from the same house over a lengthened period. If the house is only large enough to accommodate three trees, say Alexander or Waterloo, Hale's Early or Early Louise, Royal George or Stirling Castle (we prefer the last named in each case for certainty of crop and excellence of quality) and the forcing is commenced with the new year, a supply of fruit may be relied on from the close of April or early May to nearly midsummer, without unduly taxing the energies of the trees, or prejudicing their cropping in the future. The trees will now be shedding the leaves, and the buds will not be over-matured if the roof lights were taken off by the middle of August, and such are not likely to cast the buds, whilst those subjected to hot and dry conditions will drop them in a shower later on. When the leaves are all down treat the house and trees the same in every respect as described for the earliest-forced. The roof lights should remain off until the approach of very severe weather, and when replaced admit air to the fullest extent, so as to insure complete rest to the trees. When the roof lights are left off until frost has come and snow has fallen, and the house is locked in ice and snow, it is difficult to replace them, therefore precautionary measures must be taken to prevent delay in starting on account of the weather.

Succession Houses.—Trees that grow too luxuriantly should as soon as the wood is getting rather firm have a trench made one-third the distance from the stem that the trees cover in extent of trellis and quite down to the drainage, so as to detach all roots, and this may be left open a fortnight, then the soil may be removed with a fork down to the roots and picked from amongst them, laying in the roots in fresh material; good strong loam, with a sixth of old mortar rubbish intermixed, being best. Care must be taken that the trees do not suffer from want of water whilst the trench is open, but none need be given unless the foliage becomes limp. This proceeding should be followed by a good watering, and if care has been taken in removing the soil not to disturb the roots to an extent causing the collapse of the foliage, the roots will soon work freely in the new material and the fruits invariably set and stone well afterwards. The taking out of the trench is more especially necessary with young trees, the process being very effectual in counteracting their tendency to late growth and in assisting them to ripen the wood thoroughly. Root-pruning and lifting must be deferred until the leaves give indications of falling, but these operations are best performed as soon as the wood is sufficiently matured and whilst the leaves are upon the trees, yet not so early as to cause their collapse and leave the wood unripe and the buds not plumped.

Late Houses.—These have been favoured upon the whole, the bright weather being particularly suited to the late varieties, which, as a rule, are not the best in colour, though from their wonderful size and delicate appearance they are strikingly beautiful, and when the trees are given proper supplies of water and nourishment during growth the quality is excellent. The trees must still have sufficient water, though a drier condition at the roots is desirable when the fruit is ripening than when it is swelling, but if kept too dry the fruit becomes mealy. A free circulation of air is necessary, utilising sun heat if the fruit is backward, as with ventilation early in the day the temperature may run up to 85° or 90°, which is very much better than fire heat at a later period, increasing as it does the size and appearance of the fruit and enhancing its quality. Keep the wood thin, stop any growing shoots at about

15 inches or to such a length as is likely to become well matured, and pinch all laterals to one joint as growth is made.

Melons.—Plants in pits and frames will not need further damping over the foliage, and they should only be given enough water at the roots to keep the foliage from flagging. Keep the growths rather thin, closely suppress laterals, but retain the principal leaves, and elevate the fruit well above the bed on inverted flower pots, each fruit being placed on a piece of slate, and so inclined that water will not lodge upon it and cause the fruit to decay. Apply good linings to the sides of the frames, so as to furnish a warm atmosphere, kept dry by free ventilation, which the fruit requires to finish well.

The latest plants in houses are now in flower. The blossoms should be fertilised when fully expanded, and attended to daily until sufficient fruits are set for the crop. The atmosphere must be kept dry, a little ventilation being given at night to prevent the deposition of moisture on the flowers. Stop the shoots one joint beyond the fruit, and when the fruit is set keep the growths well in hand, not allowing the laterals to interfere with the principal leaves, exposing all the growths to as much light as possible. When three or four fruits are set on a plant remove all the male and female flowers, and do not overburden the plants with fruit, but thin them so that each will attain perfection, being guided by the vigour of the plants. Supply earth to the sides of the ridges or hillocks as the fruit swells and needs more nourishment. Water carefully, yet encourage and sustain root action by a proper amount of moisture in the soil. Syringing will only be required on fine afternoons, but a genial condition of the atmosphere should be maintained by damping the paths, walls, &c., in the morning and afternoon. Maintain a night temperature of 65° to 70°, and 70° to 75° by day artificially, with 10° to 15° advance from sun heat.

Fruit Ripening.—This should have brisk heat by day, with enough ventilation to insure a circulation of air constantly and abundant increase in the early part of fine days. Keep water from the house and withhold it from the roots, or only supply it to prevent flagging. Plants swelling their fruit to ripen next month must be assisted with tepid liquid manure whenever they become dry, but avoid strong doses, as these are fatal to the roots, and cause the collapse of the plants before the fruit is ripe. Expose the main leaves to all the light possible by stopping, thinning, or removing the laterals. If canker appear rub quicklime into the affected parts and repeat as necessary to arrest its progress, and so keep the plants alive until the fruit is perfected. Free ventilation and a genial warmth are the best safeguard against canker and cracking in the fruits. These evils are accelerated by a close atmosphere and a low night temperature, which cause the deposition of moisture on the stems or fruit.

THE KITCHEN GARDEN.

Tomatoes.—Seldom have the open-air Tomatoes made so good a start as they did this season, and nothing like a check has yet been experienced. Already considerable quantities of fruit have been cut from those well forwarded under glass prior to being planted out, and all have set abundance of later fruit. What we have most to fear now is a sudden attack of Potato disease, a term of dull, damp, warm weather favouring a rapid spread of this. If the foliage could be kept dry even this kind of disease would be warded off, but this is a somewhat difficult matter. In many cases, however, much might be done towards preventing disease by means of spare pit and frame lights, these being fixed over the best cropped plants against walls in anticipation of rather than after an attack. Stripping off the old leaves wholesale is a very common but most unwise proceeding, baring the fruit to strong sunshine, completely checking swelling, and it is very doubtful if it greatly hastens ripening. The strong leaves also serve to protect the fruit somewhat from disease, and that is another good reason why they should be retained. If extra gross some of the leaves may be reduced somewhat, and all side shoots ought to be cut away, the leaders also being stopped. Should disease put in an appearance cut all the fruit that has commenced or is on the point of colouring, and ripen under glass or in a warm kitchen; but it is yet too early to cut the whole of the clusters.

Tomatoes under Glass.—Plenty of strong sunshine and a good circulation of dry air suit Tomatoes well, and the crops have been and are very abundant and good in quality. Fire heat ought to be afforded whenever the days are dull or damp, and it also does good if the pipes are made fairly hot every night, the ventilators being kept partly open, a stagnant atmosphere most favouring the spread of disease. Those trained over a roof trellis are the best for winter fruiting, and directly they are cleared of their summer crops some of them might well be got ready for autumn and winter cropping. If trained thickly remove every other plant and fruit the side shoots that the rest should bear freely. In order to promote a healthy fresh growth remove some of the surface soil, give a good soaking of liquid manure, and then top-dress with a moderately rich compost. Strong young plants, however, usually give the best results, and if these are placed singly in 12-inch pots or small tubs, or are planted out in a narrow ridge of loamy soil, they will grow strongly and quickly commence bearing. A good early start is necessary, as the crops must be well set before the days become very short, consequently it is too late now to sow seed or raise plants from cuttings. Give any that are newly planted plenty of air, fire heat being turned on whenever the fires are started, but avoid closing early and creating a very moist atmosphere or disease may soon have to be reckoned with. Conference and a good selection of Large Red are among the best varieties that can be recommended for winter fruiting.

Seed Potatoes.—It is no uncommon occurrence for these to be

spoilt before the winter arrives. Instead of being left for weeks together mixed in heaps of large and small tubers, this invariably causing premature sprouting, they ought to be kept quite separate and thinly stored. Especially is it necessary that extra care be taken of Ashleafs and other extra early varieties. More often than not too few tubers of these are saved, and the rest greatly weakened by being allowed to sprout several months before planting time. It is the strong first sprout that is wanted on these, and in order to be certain of them attend to the tubers now. Select well-formed medium-sized tubers, and set these on their small or blind ends thickly in trays, storing all where both light and air will reach them, heavily covering only whenever severe frosts are imminent. Avoid the time-honoured custom of green-ing seed tubers, as it is possible for exposed sound tubers to take the disease, though not showing it for a long time afterwards. In most gardens main crop and late Potatoes are still growing strongly, but the second earliest are, in all southern localities at any rate, quite fit for lifting and storing. Neither these nor the later varieties, especially those known to be most susceptible of disease, ought long to be left undug after the skins of the tubers are fairly well set. Leaving them till the haulm is quite dead is likely to end in the loss of a portion, at least, of the crop by disease. Drawing and taking away the haulm answers the same purpose, disease usually being washed down from the haulm to the tubers, and this plan may well be resorted to when it is not possible or convenient to lift and store the crops.

Parsley.—There is never any cessation in the demand for Parsley, and it is of such importance that it is only by taking extra trouble in its production during the winter and spring that much worry is avoided. Cooks must have it, and gardeners must do their best to keep them well supplied. The newer or greatly improved strains are unfortunately much more tender than the old stock, the latter very frequently surviving in cottage gardens when the "double," more highly cultivated forms have been killed outright. If two or three lights in a pit, heated or otherwise, can be devoted to Parsley matters are much simplified, but in most cases what is required has to be wintered in deep boxes or large pots. In each and every case no time should be lost in lifting young roots, trimming off the strong outside leaves, and then packing them 4 inches or rather more apart in rich loamy soil. Stand them in a shady position till recovered from the severe check, but do not house till severe frosts are threatened. More plants might also be bedded in where they can be covered by span-roofed or other frames, handlights, or even benders and mats. Branches of fruit trees sometimes afford just enough protection to save Parsley, and it is advisable, therefore, to either sow some seed under these in the spring, or else to plant out roots now, keeping the latter well watered till active growth recommences.

THE BEE-KEEPER.

APIARIAN NOTES.

BEEs AT THE HEATHER.

It is now three weeks since I left home with my bees, and during that time they have gathered honey on part of two days only, the low temperature and strong winds characteristic of the year preventing them flying and secreting of honey. I left home on the 13th of August amidst torrents of rain and a severe thunderstorm, accompanied with heavy rain and hail, which continued more or less severe for several days, doing much damage to crops; but which, singular to say, we at the moors entirely escaped.

Here on the 29th there were from 12° to 15° of frost, which gave the country a very wintry looking aspect indeed. By midday the rain came on, and by the next morning the flats were completely flooded, and the rivers swollen to an extent rarely experienced. Although there are no rain gauges, by a fair calculation of the flood, and computation of the time and quantity of the rain that fell, together with the rises and falls of the rivers, there could not be less than 6 inches of rainfall in the first twenty-four hours. It has rained almost incessantly for three days without any signs of cessation. My bees are standing upon the second step of the natural embankment of the river, and I hear they were flooded as well as all the ricks in a large meadow. I have been unable to see them, but believe from reports that they are uninjured. The loss to farmers must be great, as many sheep, cattle, and crops have been carried away or destroyed by the flood.

It will be seen from this that it is the reverse of cheering to bee-keepers, and recalls to memory the disastrous years of 1860, 1861, and 1862; as also the subsequent three successive bad years which occurred shortly after, but which I cannot recall accurately.

On the 17th of August we had a "pet" day, on which the bees busied themselves killing their drones, and on the same day all our virgin queens mated, some of them being nearly two months old. One very weak nucleus, situated in a wide space, is now strong with stray bees. On this I may have something to say again. More important to bee-keepers at the present time is

for them to be careful that stocks intended for next year are all provided with young fertile queens, as I find 70 per cent. of last year's queens have been deposed.—A LANARKSHIRE BEE-KEEPER.

APICULTURAL ITEMS.

IN further reference to Messrs. Cowan and Benton, I should like to mention that Mr. Cowan's statement was that "no one, in Europe at any rate, has ever seen or heard of pure Carniolans being yellow." This is the text; he wanted Benton to help him out by admitting he had made a mistake in saying they did so exist. Whether such bees are the true and pure Carniolan type is quite outside the question, which I did not and do not touch upon. In 1888, when the controversy was going on, Benton did not hint at all that he regarded such bees as being impure.

Mr. W. H. Ley, of Easton, near Stamford, had a grand stock of hybrid Punics, though crossed with some hybrid Cyprian drone. He reported them rather difficult to handle, while another hybrid stock, mated with a native British drone, were the quietest bees he has ever seen. Well, after reading what Mr. Cowan said he got nervous and had an accident in taking off the supers, with the result that he crushed some bees, and got the stock quite savage. In his haste he decided that Mr. Cowan was right, and forthwith gave them a dose of brimstone; then wrote to me to ask my opinion, as he had fears of having made a mistake, his other Punics being very gentle. This being the first case in which anyone has reported them bad tempered, I told him he ought to have written me first before destroying them. He now writes me as follows:—"Strange to relate, in the stock I sulphured, although I killed most of the bees, the brood and queen were all right, and on opening them to take honey I found lots of brood hatching and the queen laying, so that now they are a good stock again. They have done so remarkably well that I think I shall try them again." I have been charged with claiming the most wonderful virtues for Punics—too wonderful to be true; but here is a case that caps all. Mr. Cowan says they are "short lived." After this, who shall say they have not "nine lives?" I must investigate the matter, because all my queens live a very long time. Here is a case for Mr. Cowan to investigate on the spot; he will not have so far to go as Africa.

Mr. Cowan must feel highly elated at getting "Old Father Langstroth" to write him on Punic bees. Langstroth was favourably impressed with those he saw, and so was Roots, who was expecting Mr. Cowan's finding someone to send them "direct" at a "moderate price"—i.e., 4s. per queen. When Roots found that the former had failed in his purpose he at once accepted all his statements respecting them; hence it is a case of Roots having read Cowan and Cowan having read Roots. This seems to have taken Father Langstroth in; but he will alter his views with a more extended experience with Punics—that is, if his health will allow him to test them. Is it not remarkable for anyone in America to accept failure as the best credential of reliability?—failure to find any mention of Punic bees in his large library; failure to find anyone who had ever seen a colony at work; failure to learn that his co-Editor had had such bees and spoke favourably of them "from experience;" failure to find such favourable allusion, although he was told to "see June Record;" failure to find Punic bees in Tunis, although he claims to have got to the "very spot" I got them from; failure to get a queen over alive for others to see for themselves; failure to even try these bees at all. I could go on thus and fill a column. I repeat, is it not strange for the word of one who has nothing but failures, mistakes, and unintentional oversights for credentials to be accepted by anyone as reliable?—A HALLAMSHIRE BEE KEEPER.

NUMBER OF BEES TO A POUND. — I was much surprised on writing to an eminent manufacturer of hives in London and asking how many bees there were in a pound, to be informed that they did not know. I took the trouble to count a quarter pound of fresh killed bees, and found that there were 1308 in that weight, so 1 lb. would contain 5232.—C. J.

TRADE CATALOGUES RECEIVED.

Messrs. Barr & Son, King Street, Covent Garden, London.—*Dutch Bulbs and Daffodils.*
Messrs. Bunyard & Co., Maidstone.—*Fruit Trees.*
Messrs. Dobbie & Co., Rothsay, N.B.—*Bulbs, Roses, Fruit Trees, Pansies, and Violas.*
Messrs. Hogg & Robertson, 22, Mary Street, Dublin.—*Bulbs.*
Mr. T. Horsman, 102, Godwin St., Bradford.—*Bulbs, Roses, Fruit Trees.*
Messrs. J. Sharpe & Son, Bardney, Lincs.—*Seed Wheats.*
Messrs. R. H. Vertegans & Co., Chad Valley, Birmingham.—*Hardy Herbaceous and Alpine Plants.*



* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Impatiens Jerdoniae (*F. Walker*).—This plant, which we presume you mean, as we do not know an *Impatiens Jerdoniae*, was introduced to this country from the Nilgherries, a range of mountains in the Madras Presidency of Southern India in 1852.

Apricots under Glass (*Constant Reader*).—Mr. Bunyard did not read a paper on this subject at Chiswick, but simply made a few observations, of which the substance was given in our columns last week. He made no pretence to treat the subject in detail, as that was not practicable under the circumstances.

Scale on Ericas (*D. D.*).—The remedy you have found effectual in freeing Crotons and Ixoras from brown scale—namely, "a thumb-potful of paraffin to a four-gallon can of water"—may be employed for the Ericas, provided you take care not to use too much softsoap, and to keep the petroleum evenly mixed with the soapy solution whilst it is being applied to the plants. It is necessary that the mixture be kept from the roots, and that it be used only on the smooth-leaved varieties. If the hairy-leaved varieties are infested "touch up" the attacked parts with spirits of wine diluted with an equal quantity of water, using a small brush. Methylated spirit is not always safe to use, as it contains spirits of tar (creosote).

Naming Peaches and Nectarines (*W. M. C.*).—Like some other readers, you have overlooked what has appeared on the above subject—namely, that specimens of these fruits alone cannot be named; either leaves must accompany them, cut close from the wood, or young shoots must be sent, and in addition we must be informed whether the flowers of the varieties are large or small. It is by a combination of characters in the fruit, flowers, and leaf glands that varieties can often be identified. As a rule, naming them from fruit alone is mere guess-work, as fruits are changed in appearance by cultural and climatal influences. We are sorry, therefore, we cannot name the fruits you have sent, but should gladly have endeavoured to identify them had you complied with the conditions.

Cineraria maritima (*W. E.*).—This *Cineraria*, you say, is not hardy with you; and such is the case in many places, for this simple reason—the soil is too damp and rich. On dry gravelly soils, and on rockwork, it is hardy; and the way we keep it over the winter is to transplant it in autumn to the foot of a south wall, where we allow it to remain until spring, when we plant in its proper position, and by dividing the large roots obtain sufficient plants to fill the space previously occupied. In some soils and situations *Cineraria maritima* will not live. You may, therefore, take up a few plants and pot them in any light loamy soil, keep sparingly supplied with water, and winter in a dry airy situation in the greenhouse. In February place in a temperature of 55° or 60°, which will encourage the production of side shoots. When these are of sufficient size to make into cuttings of three joints, cut them across transversely below the lowest leaf, and remove it and the next above it, leaving one with the growing point at the top. Insert the cuttings in moist silver sand, and plunge the pot in a bottom heat of from 75° to 80°. Place a bell-glass over the cuttings if the atmosphere of the house is dry, but if it is calm and moist the bell-glass may be dispensed with. Keep the sand moist, but avoid wetting the foliage. If the sand be kept very wet the cuttings will damp off. They will root in a fortnight or three weeks, and may then be potted. Continue them in heat until established; then remove to the greenhouse and gradually harden-off prior to planting-out. These *Cinerarias* may be raised from seed sown in February; but the foliage is not so bright in colour as that produced by cuttings from old plants.

Pear Tree Infested with Slug-worm (*C. T. H.*).—The leaves are attacked by the larvæ, called Slug-worms, of the Pear Sawfly (*Selandria atra* of Stephens and Westwood), (*Tenthredo cerasi* of Linnæus and Curtis), and devour the upper surface of the leaves, consuming the soft parts, leaving only the lower skin of the leaf, veins, and midribs, the whole leaf turning brown or black, and ultimately falling. The larvæ usually commence their attacks about the middle of

August, and prey upon the foliage until October, when they descend to and enter the ground, where they spin an oval cocoon, coated with earth, and from that the sawfly emerges in the following July. Dusting the leaves on the upper side with newly slaked quicklime, repeated once or twice at intervals of about half an hour, completely kills the slug-worms. Another very effectual remedy is to slake a quarter peck of quicklime in a tub, add six gallons of water, stir well, and allow it to stand twenty-four hours, then pour off the clear water. Dissolve 8 ozs. of softsoap in a gallon of boiling water, also steep 2 ozs. of the strongest tobacco in half a gallon of boiling water, cover, let stand until cool, then strain, and add the softsoap solution and the tobacco water to the lime water, mix all together, and apply with a syringe to every part of the trees, especially the upper surface of the leaves. Slug-worm infestations are generally local, and recur year after year. As it is getting late, and some of the pests may have entered the soil from the fallen leaves and passed into the pupæ state, we advise the removal of the soil in winter a few weeks after the leaves are all down, taking it off 3 or 4 inches deep beneath the trees that have been infested, and burning it. Supply fresh soil in place of that removed.

Disease in Scotch Firs (J. H.).—One of the growths is very much, and the other to a less extent, infested in the leaves or needles with the mycelium of a fungus (*Peridermium aecidii*, a form of *P. pini*), which has permeated the greater part of the tissues and abstracted the contents of the cells, the whole of the green colouring matter (chlorophyll) being gone. This gives the needles, beneath which part of the fungal filaments exist, a sickly yellow colour. There is nothing discernible outside the epidermal tissues as yet, but the reproductive organs are being pushed from the mycelium, and these will appear as outgrowths through the epidermis of the diseased parts after a time in cylindrical, laterally flattened, or conical form, and called peridia. These outgrowths, about one-tenth of an inch high, and one-twentieth of an inch broad, are formed of a thin layer of cells, and tear unevenly at the tips, setting free several minute, orange-coloured spores. These reproduce the fungus, as well as give the popular name of "red rust" to the parasite. The form described is only found in the needles, and it is believed, from the investigation of Wolff and others, to be only a stage in the life-cycle of another fungus (*Coleosporium seneciensis*) commonly found on the leaves and stems of the common Groundsel (*Senecio vulgaris*), and readily distinguishable by the orange spots crowded into irregular patches, or in concentric rings, or scattered over the leaves. The spores of the *Coleosporium* are very minute, orange yellow, nearly round, and covered with fine warts. These spores alighting on the Scotch Fir or Austrian Pine often fail (as they do in experiments) to produce the Fir fungus, but we invariably find it on young trees—always, to our knowledge, under twenty years of age—in pleasure grounds where the ground has been trenched, and in woods a few years after the trees have been planted, the turned up ground, whether by trenching or in making holes, giving rise to Groundsel from seeds that have lain dormant. We have not found the fungus infest trees planted distant from the vicinity of gardens—that is, on the mountains of Wales, and on the North Yorkshire moors. There is no fungus as yet in or beneath the bark, but the attack so far is confined to the leaves, and it should be prevented spreading by removing and burning all the parts that show the disease. The ground in the neighbourhood of the trees should be kept as clear as possible of Groundsel, and Ragwort (*Senecio Jacobææ*) should be excluded from the gardens near Fir plantations, for the *Coleosporium* flourishes on the vigorous *Senecios* of gardens, just the same as the fungus which passes part of its existence on the leaves of various species of *Ribes*, and gives rise to the typical form in *Pinus Strobus*, is most luxuriant on a Black or White Currant bush in gardens. This fungus (*Peridermium Strobi*, of Dr. Klebahn of Bremen) attacks the bark, not the leaves, of the Weymouth Pine, and in this form produces æcidiospores, whilst the uredo and telentospores are borne by the heteræcidious species found on *Ribes* leaves in the shape of *Cronartium ribicola*, *Dietr.* This species Dr. Plowright found on July 2nd near King's Lynn in Black and White Currant bushes in the garden of Mr. G. S. Boyes, Oakwood House, which is the first recorded "find" of the species in England.

Names of Fruits.—*Notice.*—Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. (*S. and M.*)—The Apple is probably the Carlisle Codlin, but no one could be absolutely certain from a solitary fruit.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligature, it being often difficult to separate them when the paper is damp.

(*J. J.*).—The Fern is *Adiantum concinnum*. The Dahlias are attractive, but not of exceptional merit. (*J. W.*).—The dark-leaved plant (No. 3) is grown in a large nursery under the name of *Hæmigraphys colorata*. (*C. W.*).—1, *Calliopsis Drummondii*, the dark one is *atrosanguinea*; 2, *Sphenogyne speciosa*; 3, *Vallota purpurca*.

COVENT GARDEN MARKET.—SEPTEMBER 7TH.

MARKET very flat, indeed, with prices much depressed.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, half sieve ..	1	0	3	6	Oranges, per 100 ..	4	0	9	0
Grapes, per lb. ..	0	6	1	6	Peaches, per dozen ..	2	0	6	0
Filberts, Kent, per lb. ..	0	8	0	9	Plums, per half sieve ..	2	0	4	0
Lemons, case ..	15	0	35	0	St. Michael Pines, each ..	3	0	6	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beans, Kidney, per lb. ..	0	2	0	0	Mustard and Cress, punnet	0	2	0	0
Bect, Red, dozen ..	1	0	0	0	Onions, bunch ..	0	3	0	5
Carrots, bunch ..	0	4	0	0	Parsley, dozen bunches ..	2	0	3	0
Canlflowers, dozen ..	2	0	3	0	Parsnips, dozen ..	1	0	0	0
Celery, bundle ..	1	0	1	3	Potatoes, per cwt. ..	2	0	5	0
Coleworts, dozen bunches	2	0	4	0	Salsafy, bundle ..	1	0	1	6
Cucumbers, dozen ..	1	6	3	6	Scorzoneria, bundle ..	1	6	0	0
Endive, dozen ..	1	3	1	6	Seakale, per basket ..	0	0	0	0
Herbs, bunch ..	0	3	0	0	Shallots, per lb. ..	0	3	0	0
Leeks, bunch ..	0	2	0	0	Spinach, bushel ..	3	0	3	6
Lettuce, dozen ..	0	9	1	0	Tomatoes, per lb. ..	0	2	0	4
Mushrooms, punnet ..	0	9	1	0	Thruips, bunch ..	0	3	0	4

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arm Lilies, 12 blooms ..	2	0	4	0	Maidenhair Fern, doz. bchs.	4	0	6	0
Asters, French, bunch ..	0	9	1	3	Marguerites, 12 bunches ..	2	0	4	0
„ English, doz. bunches	2	0	6	0	Myosotis or Forget-me-not,				
Bouvardias, bunch ..	0	6	1	0	dozen bunches ..	2	0	3	0
Carnations, 12 blooms ..	0	6	2	0	Mignonette, 12 bunches ..	1	0	3	0
Carnations (various), 12					Orchids, per dozen blooms	2	0	8	0
blossoms ..	1	0	6	0	Pansies, dozen bunches ..	1	0	2	0
Carnations, dozen bunches	4	0	6	0	Pelargoniums, 12 bunches	4	0	6	0
Cornflower, dozen bunches	1	6	3	0	„ scarlet, 12 bunches	3	0	4	0
Chrysanthemums, dozen					Poppies (var.), doz. bunch	1	0	4	0
blossoms ..	1	0	2	6	Primula (double) 12 sprays	0	6	0	9
Chrysanthemums, dozen					Pyrethrum doz. bunches ..	3	0	6	0
bunches ..	6	0	12	0	Roses (indoor), dozen ..	0	9	2	0
Eucharis, dozen ..	1	0	3	0	„ (outdoor), doz. bunch.	2	0	6	0
Fuchsias, per bunch ..	0	6	1	0	„ Red, per doz. blooms ..	1	0	2	0
Gardenias, per dozen ..	2	0	4	0	„ Tea, white, dozen ..	0	6	2	0
Gladioli (various), 12 sprays	1	0	2	0	„ Yellow, dozen ..	2	0	4	0
Gypsophylas, English,					Stocks, dozen bunches ..	3	0	5	0
per bunch ..	0	3	0	6	Sunflower, doz. bunches ..	2	0	6	0
Lavender, doz. bunches ..	4	0	6	0	Sweet Sultan, doz. bunches	2	0	3	0
Lilium longiflorum 12					Sweet Peas, dozen bunches	1	0	3	0
blossoms ..	2	0	4	0	Tuberose, 12 blooms ..	0	3	0	6
Lilium (var.) doz. blooms	0	6	2	0					

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (golden) dozen	6	0	12	0	Geraniums, Ivy ..	4	0	6	0
Begonia, per dozen ..	6	0	12	0	Hydrangea, per dozen ..	9	0	15	0
Chrysanthemums, per doz.	6	0	9	0	Lobelia, per dozen ..	3	0	6	0
„ large plants, each	1	0	3	0	Lycopodiums, per dozen ..	3	0	4	0
Cupressus, large plants, each	2	0	5	0	Marguerite Daisy, dozen ..	6	0	12	0
Dracæna terminalis, dozen	18	0	42	0	Mignonette, per dozen ..	4	0	6	0
„ viridis, dozen ..	9	0	24	0	Myrtles, dozen ..	6	0	9	0
Enonymus, var., dozen ..	6	0	18	0	Palms, in var., each ..	1	0	15	0
Evergreens, in var., dozen	6	0	24	0	„ (specimens) ..	21	0	63	0
Ferns, in variety, dozen ..	4	0	18	0	Pelargoniums, scarlet, doz.	2	0	4	0
„ (small) per hundred	6	0	8	0	„ per dozen ..	6	0	12	0
Ficus elastica, each ..	1	6	5	0	Tropæolum or Nasturtiums				
Foliage plants, var., each ..	2	0	10	0	per dozen ..	3	0	4	0
Fuchsia, per dozen ..	3	0	6	0					



WHEAT SOWING.

To have a full strong plant of Wheat sow early in September, using a pure seed sample of sorts of approved excellence, avoiding all tail corn or inferior seed. The matter is worthy of particular attention and a special effort, any momentary inconvenience caused by it being rewarded by freedom from the anxiety and difficulty of later sowings. Every season there are numerous complaints of unfavourable weather and a bad seed bed from those farmers who put off sowing till October and November. Now the soil is comparatively dry and friable, breaking freely before the drill coulter, and covering the seed if sown broadcast by a turn or two of light harrows. Then it frequently clogs the implements, and it is often most difficult to get the seed well covered, and the work is heavier

and slower. This applies especially to heavy land, and it was through having to sow Wheat extensively in such soil that we first gave close attention to this work. The farm was a large one, all heavy land, with considerably upwards of a hundred acres under Wheat every year; the bailiff was an able man and a good farmer, but given to late sowing, and having matters very much his own way the first season, as it was an outlying farm and we had several others in hand. Wet weather, as usual, set in during October, and the difficulty he had in sowing the whole of the Wheat probably did more to promote early sowing subsequently than anything we could say.

The pity of it is that such lessons of adversity are not turned to better account generally. Witness last season, when the sowing of thousands of acres had to be put off so very late owing to unfavourable weather. Surely sensible men have not forgotten this, but have done and are doing all they can to sow early and to sow well. With attention to this, and really good culture, it is only reasonable to suppose that our Wheat averages would be much higher than they now are. The agricultural produce statistics published by the Board of Agriculture show a Wheat average yield per acre last year for England 31.33 bushels; Wales 23.73; Scotland 36.98; and Ireland 32.34; or 31.30 bushels per acre for the United Kingdom. This average certainly compares favourably with those of former years, but it is much below the 5 quarters or 40 bushels per acre which is so possible and so desirable.

The average for Wales is much below the others; it is always so; yet as affording proof of how much better it might be, Mr. G. Byng Morris of Bridgend, Glamorganshire, wrote recently in the "Agricultural Gazette" of a working farmer who sowed a field in that parish with Wheat in September after lea, and, having dressed it liberally with lime, and driven his sheep on and off it, weather permitting, through the winter to tread and manure it, he grew a crop of sixty bushels (7½ quarters) per acre. He also mentions a crop of seventy bushels an acre in the Fens, another of sixty bushels an acre in Oxfordshire. Of his own Welsh farm he says, "I sowed a field of Wheat last October, and manured subsequently on the surface with 3 cwt. of superphosphate, 2 cwt. of kainit, 1 ton of lime, and seven small loads of quite rotten yard dung per acre, in accordance with Ville's directions. I commenced reaping the crop on August 3rd, and am of opinion that the yield will be sixty bushels per acre." In this opinion he appears to be supported by that of the neighbouring farmers, one of whom pronounced it the finest, and the other as fine a crop of Wheat as he had ever seen. "Yet," says Mr. Morris, "my land would not return the seed without fit manuring and cleaning."

Mention is made of his use of lime with other manures, because though lime undoubtedly forms the basis of a successful Wheat crop, the mistake so frequently made is in trusting to it alone. In his well known work on artificial manures Ville says the four substances most favourable to fertility are nitrogenous matter, calcic phosphate, potash, and lime. He terms this mixture his normal manure, and shows by diagrams how necessary each element of fertility is to produce a full crop. With normal manure the yield per acre was 6108 lbs. of straw and 50½ bushels of grain; with nitrogenous manure, without mineral matter, the yield fell to 3069 lbs. of straw and 22 bushels of grain. With minerals without nitrogen it was only 2643 lbs. of straw and 18 bushels of grain; and without any manure 12 bushels of grain and 2323 lbs. of straw was the result. We have seen some crops of Wheat, Oats, and Beans recently so poor that they evidently came under the no manure category.

Early-sown Wheat is in a mild winter so vigorous in growth that it may be worth while running the sheep over it occasionally when the surface is sufficiently dry. In any case they do it much good in the way of manure. But we prefer drilling in chemical manure with the seed, and in doing so judgment is called for in the selection of manures. For soil that is sound and has had

manure regularly for previous crops, a hundredweight of superphosphate with half that quantity of sulphate of ammonia per acre might suffice for sowing with the seed, following in spring just as active growth begins with a hundredweight per acre of nitrate of soda applied as a top-dressing. For exhausted soil the quantity of superphosphate would be increased to 3 cwt., with the addition of half a hundredweight of muriate of potash instead of kainit, with the sulphate of ammonia. For very early September sowings we have used nitrate of soda with excellent results, seed germination being then so quick that the plant is up and growing freely before there is any risk of loss of nitrogen by heavy rain washing it down to the drains. We prefer it to sulphate of ammonia, which is much slower in action.

WORK ON THE HOME FARM.

Early sown Wheat was reaped and stacked in excellent condition before the third week in August. The work was done in a deliberate and careful manner, the stacks being so well built and thatched that all damp from rainfall is excluded, the stacks standing erect and compact, as all well-built stacks should do. We have seen much overripe corn still uncut, to our regret, because of the risk of heavy loss from such corn being shaken out in the cutting and carting.

The sowing of Rye, winter Oats, and Wheat is now being done as fast as possible. We like to have the whole of this work out of hand as early this month as we can, but cannot always avoid some Wheat sowing in October, as autumnal tillage renders this month one of the busiest of the whole year. Horses must be well fed, and men well cared for, to bear the strain, for we will not have an hour of daylight wasted now, and the only plan is to be up and out with the men at dawn of day. Horses are kept in yards at night off pasture during this busy time, having plenty of second-crop Clover in the racks, with a liberal feed of corn morning and night. With a continuance of fine weather we hope to have most of the land clean, and sown or ridged up for winter by the end of the month. We hear much nonsense about which soil requires ridging in winter and which does not. The matter lies in a nutshell. All soil except that which is light and sandy is the better for winter ridging. We must have air circulation in the soil by deep tillage now; drainage as a means to that end shall have attention later on, for if air circulation in soil is to be free and unchecked, superfluous water must pass from it by filtration and not by attraction and evaporation. The one causes the soil to be open, free, and warm, the other seals it against the air, keeps the temperature low both in and upon the soil, and renders vigorous growth impossible.

The tups are now with the ewes as we like the lambing to begin in January, or upon occasion to finish in that month. Early ewe lambs kept going briskly from the first are strong animals by autumn. Profits from sheep are now so low as only to be possible by the most careful selection, breeding, and management. However low the price falls it must never be forgotten how exceedingly useful the flock is upon the land.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.				Rain.
1892. August and September.	Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.
Sunday .. 28	29.509	52.6	52.6	N.E.	60.4	70.0	52.6	117.9	52.6	0.209
Monday .. 29	29.733	60.7	59.8	S.	60.0	71.6	50.4	101.9	45.4	0.019
Tuesday .. 30	29.622	65.4	59.3	S.W.	60.1	71.1	60.3	117.9	54.9	0.037
Wednesday 31	29.626	62.2	54.4	S.W.	60.0	68.2	54.8	115.7	49.6	0.106
Thursday.. 1	29.958	57.7	52.2	S.W.	58.9	65.0	49.6	104.1	45.2	0.068
Friday .. 2	29.697	60.3	58.6	S.W.	59.0	63.1	58.5	90.2	54.5	0.157
Saturday .. 3	29.704	56.5	51.9	S.W.	58.1	64.8	46.8	118.4	42.1	0.010
	29.693	59.3	55.5		59.5	67.7	53.3	109.4	49.2	0.606

REMARKS.

28th.—Continuous heavy rain from 4.30 A.M. to 9.45 A.M.; generally overcast till noon; bright afternoon and evening.

29th.—Wet early; windy day, with occasional sunshine, and one or two slight showers.

30th.—Overcast early; showers in morning; fine afternoon, with sunshine at times.

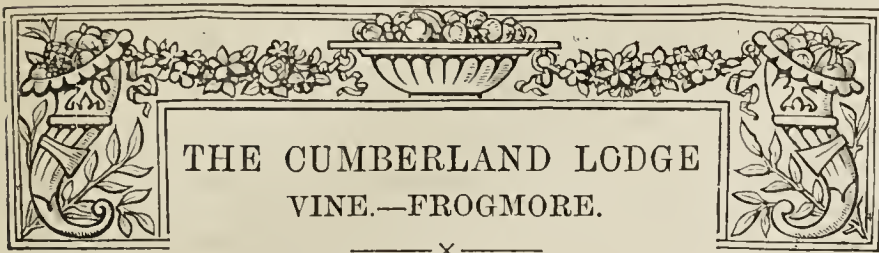
31st.—Sunny morning; wet afternoon; fair evening.

1st.—Sunny morning; generally overcast and showery in afternoon.

2nd.—Almost continuous rain from 4.30 A.M. to 2 P.M., then overcast.

3rd.—Bright sunshine till 10 A.M., slight showers about 10.30, then generally sunny again.

A damp week of nearly average temperature, but with breezy intervals. — G. J. SYMONS.



A SHORT time ago I had the pleasure of introducing Mr. Owen Thomas to an inspection of the Manresa Vine, also to its diligent and genial grower, Mr. M. Davis. Seeing that both the Hampton Court Vine and the much larger celebrity at Cumberland Lodge are included in the extensive charge of Her Majesty's gardener at Frogmore and Windsor, it was only natural he would be interested by an examination of the younger giant at Roehampton. Though the crop had been cut at the time of our visit the splendid Vine fully equalled his anticipations, and he congratulated the raiser and grower on the cultural skill displayed in its production. Notwithstanding the references of the eloquent champion of the Speddoch Vine a few weeks ago (page 137, August 18th), it yet remains true that no other man in Britain can point to a Vine of his own raising equal in size, training, and healthy vigour to the triumph of Mr. Davis. The weight of the crop this year was just 1000 lbs., the bunches averaging close on 1½ lb. each. In colour and finish the Grapes were all that could be desired, and not half a dozen bad berries were removed from the whole crop. Nearly 1800 bunches were cut from the Vine early in the season. It is trained in the most systematic manner under 3825 square feet of glass. This is a natural introduction to the Cumberland Lodge Vine, because the invitation to see it was consequent on the visit to Roehampton.

Readers who are interested in big Vines, and they are many, must not expect any descriptive comparison between the two giants inspected. There is only one thing in common between them. It may appear a strange thing to say, but it is true, that both are cramped from want of room, and it will be a thousand pities if more space is not afforded them. Both Vines are in lean-to houses, easily convertible into span-roofs. The Cumberland Lodge Vine has suffered the most by restriction, for its growths have had to be rigidly suppressed for a century; the Roehampton Vine has only recently filled its allotted space, and the additional Grapes it would bear under another roof would give good interest on the outlay in providing it. In this case the Grapes are grown for sale. Those at Cumberland Lodge are grown for Her Majesty's table.

The extension of the Royal Vine is needed for its invigoration, which means the prolongation of its life. Not that this is in jeopardy; on the contrary the crop is better this season than it has been for the past two or three years, but it is surely desirable to do all that is possible to still further improve the condition of the grand old Vine. All that can be done by cultural skill in the present house is being done, as it has been done in the past, and we may be sure there will be no cessation of effort in seeking the production of roots; but no stimulus to root action equals branch extension, and there cannot be a doubt that if the Vine had been provided with another roof to cover it some years ago, its strength and fruit-producing power would have been materially increased. No one knows this better than Mr. Thomas does, for experience has taught him that thousands of Vines are crippled, and the crops weakened, by the constant and rigid suppression of the growths over a series of years. He was quick to see this at Roehampton, and certainly the crop on rods trained in the orthodox way, and restricted to the length of the rafters, was not half so good, nor the growth half so vigorous, as that on rods of the big Vine extending some

200 feet, and the larger these became, the better the Grapes appeared to be.

The Royal Vine at Cumberland Lodge covers the roof of a house 138 feet long by 20 feet wide, except a little at one end where a branch died, but young canes are fast extending over the space, and are the best in the house; they show what the Vine needs—more liberty. The roof was black with Grapes, there being 2000 bunches in finish and quality as good as Black Hamburgh Grapes could be, though not large. The crop appears to be much the same as that of 1879, described by Mr. Barron in his excellent work, as "2000 bunches of an average weight of three-quarters of a pound, or a total of 1500 lbs. of Grapes." This year's crop, though the same in number of bunches, will not, presumably, equal that weight; and it is doubtful if it is in the power of man to maintain the yield in its present area. Significant words are uttered by Mr. Barron in the new and cheap edition of his book just published, a work which all persons who are growing Grapes or trying to grow them should possess. They are cited as having a distinct bearing on the subject in hand. "The principle of extension," he says, "is more consonant with the nature of the Vine than that of repression. Extension is assuredly favourable to longevity, whereas the opposite treatment more rapidly uses up the energy of the plant. The more a Vine is allowed to grow the greater the amount of vital force it secures; were it not that the Vine is an exceedingly good tempered subject, and quickly recuperative, this result would become more generally apparent than it now is. Rich feeding with restricted growth will lead to the production of heavy crops of fine fruit, but it is a high pressure system of management, and it is seldom long before Vines break down under it, and lapse into a condition of mediocrity."

The volume contains an illustration of a portion of the Cumberland Lodge Vine. It is established about the centre of the house, the trunk being about 4 feet in circumference in the thickest part. It divides into four main branches varying from 18 inches to 2 feet in circumference at the base, these extending and dividing in all directions. In some parts the rods are so twisted and curled as to afford some little surprise that the sap can flow so freely through them as it does. No attempt whatever was made when the canes were tractable generations ago to keep them straight. They appear to have grown as they liked or could, sometimes upwards, sometimes downwards, sometimes appearing to have met with an impediment and doubled back again; yet the old Vine has gone steadily on through the reigns of monarch after monarch, yielding its fruit, like the "good tempered subject" Mr. Barron describes. It is because of its irregularity of growth, the laterals being trained where there is room for them, and in any direction, that all comparison fails between this and the Manresa Vine. They bear the same relation to each other that a beautifully trained Pear tree on a wall does to a huge orchard standard left to assume its natural habit. The Cumberland Lodge Vine has been dressed by many hands during its long career—it is supposed of about a century and a half—but the Roehampton youngster has scarcely been touched, and probably never pruned except by the hands that made and inserted the cutting. They are both grand Vines, but grand in different ways. One is representative of ancient practice, the other of modern methods, but not too modern. Though the Royal Vine is like the nation, old, we will hope that, also like the nation, it will have liberty to extend its arms and gain strength by such extension; then will future generations know that it was cherished and well tended during the reign of the great and good Queen Victoria, who will, as all who read these lines sincerely hope, for many years to come enjoy its luscious fruit.

In connection with the visit a glimpse was had of the extensive

* "Vines and Vine Culture," third edition, 5s., by post 5s. 6d.: 171, Fleet Street, London.

gardens at Frogmore, and of the beautiful terrace gardens at Windsor. Frogmore is a great supply establishment, five or six men being constantly employed in gathering and packing produce for the Castle, Balmoral, Osborne, or wherever the Court may be. The kitchen garden ground is nearly 50 acres in extent, and every part as clean and orderly as a well-kept villa garden. The aggregate length of rows of one sowing of Peas was just a mile, and other crops are grown on a proportionately large scale; 11 acres are devoted to Potatoes, Asparagus, Seakale; and even Horseradish are grown by the acre. The walks are margined by Lothian Stocks—fine bushes, 2 feet high and through, from seed sown in February.

On the walls the Peach crop is a magnificent one, hundreds of dozens of fruit having been gathered with plenty more to follow. On the walks are 2000 Chrysanthemums admirably grown, mostly for producing large blooms, and many buds are set; but several plants are grown as bushes for supplying armfuls of cut flowers, while a few hundreds of hardy little plants for decorative purposes are coming on from cuttings inserted early in August. Of Strawberries, 10,000 are established in pots for forcing, some with huge crowns, others not long placed in their fruiting pots. La Grosse Sucrée is preferred to all other varieties. Good work is being done under glass. Vines are in various stages, the roof lights are off the early houses, and the Vines ready for pruning. Several houses have been planted with young Vines, which have made excellent and firm growth. Mr. Thomas is no believer in the wild system of unrestricted growth in summer to be cut away by yards in the autumn, and he tops young Vines when he thinks they have gone far enough. That he will have fine Grapes is certain; and he is almost certain to work on the steady extension system.

Very good crops of Grapes are hanging on established Vines, and in one house especially the beneficial effects of a change in pruning is very striking. The Vines had been closely spurred for years, with the result that the growth became weaker and the crop lighter. The laterals were shortened to the best eyes on ripe wood from 3 to 6 inches from the rods, and the house was filled with good Grapes, the crop being quadrupled in a season. Amongst them is a seedling of the Lady Downe's type, though much finer, but its quality and keeping value remain to be tested.

The Pines for which Frogmore has long been famed, planted in 2 feet of soil on beds of 6 feet of leaves in Dutch pits, are in splendid condition and supporting magnificent fruit. Successional plants from suckers planted in April have made marvellous progress, the plants reminding of Yuccas by their broad thick leaves. Massive fruits may be expected from them next year, and the reputation of the Royal Gardens in this department will be sustained. Melons are grown in hundreds—enough for a town, one would think, and something like a town has to be supplied, for when the majestic old castle is full, the demand for all kinds of produce is enormous. A glance was cast across the terrace garden, in which bright and sweet flowers are charmingly associated with choice Conifers and ornamental shrubs. The combination is a delightful one and possibly unique.

Mr. Thomas has been long enough to get a firm grip of his duties and to prove himself master of his great charge. He is loyally supported by permanent departmental foremen, of whom he speaks highly; they will find in him a chief as just as he is able, and the fair fame of the Royal Gardens is safe in his keeping.—J. WRIGHT.

P.S.—I have to revert to the Manresa Vine, to give Mr. Cannell of Swanley the credit to which he is entitled. He is the real author of the famous Vine. Thirty-five years ago he was engaged in a public discussion, and it was because his arguments in favour of extension appeared stronger than those of his opponent against it—at least to Mr. Davis—that he determined to try the plan on the first opportunity, and this occurred at Roehampton. Mr. Davis stated this to Mr. Thomas and myself at our recent visit, and it is only fair to the Swanley original—for an "original"

he is—that the fact should be recorded. Mr. Davis not only raised the Vine, but built the house and glazed its 3584 square feet of roof with his own hands. Mr. Cannell should go to see his disciple.—J. W.

THE ROCK GARDEN.

(Concluded from page 97.)

THE Saxifrages, Sempervivums, and Sedums form a very numerous group of plants of the most varied forms and characters, many of which are admirably adapted for the rockery; indeed, I once remember seeing in the North of England a rock garden in which the plants were almost exclusively of these groups, and a very pretty rockery it was; but while few will be inclined to imitate this, there is no one who has a rockery that does not feel himself indebted to these plants for many an adornment to it. Although there may be some more "coy to please" than others, yet, as a rule, they are easily grown; they are amongst the very earliest flowers to bloom, for Saxifraga Burseriana comes even before the Snowdrop, and from these a long succession of plants, pretty in foliage and in flower, follow on for several months. In a small garden like mine one cannot indulge in the luxury of growing all or anything like all of these plants, and I have, therefore, made a selection of a few of the best.

Saxifraga Burseriana.—Nothing can be neater than this pretty but slow growing species, its "hedgehog-like" rosettes being covered in early spring with large white flowers on bright red flower stems. These are produced so abundantly that they completely hide the foliage. The variety major is larger.

Saxifraga lantescana.—A fine rosette, sending up large panicles of white blooms, closely resembling pyramidalis.

Saxifraga Macnabiana.—A charming plant with panicles of white flowers, beautifully spotted, and marked with carmine.

Saxifraga longifolia vera.—This great Pyrenean Saxifrage has been called, and not undeservedly, the queen of Saxifrages. I have had it many times, and it has grown and flowered well, but unfortunately its habit is to die after this, bearing no offsets—at least, I have never found any, so that it has to be constantly raised from seed. By far the finest lot of plants I have ever seen were at the Millmead Nursery, Guildford. There was a bed of them containing hundreds of plants, which had all been imported from the Pyrenees—plants measuring 15 to 18 inches across, and all in most vigorous health. Their appearance was a treat indeed, and disposed of the idea, which had always been stated by growers, that it required to be planted on a slope in the rockery, for it is evident that, like Ramondia from the same region, it will do on level ground equally well. Probably it is generally found in this position, and hence it has been supposed that it was necessary to imitate Nature in the garden. There is this, however, to be said in favour of planting it laterally—that you see the beautiful rosette of foliage to much greater perfection. It is extremely hardy; no amount of frost seems to have any effect upon it.

Saxifraga oppositifolia.—This charming dwarf Saxifrage is one that for a long time puzzled me. I tried it in various situations and on various soils, but to no purpose, and yet everybody told me it was amongst those plants that "duffers" could grow, so that I was worse than a duffer. At last I tried it on a small rockery, just under my study window, and there it has done admirably, and it is certainly one of the most delightful of our early spring flowers. Where it has freer scope than it has with me I have seen it clothing rocks and stones with its pretty close foliage. The variety alba is also very pretty, and there have been some varieties introduced which are more desirable even than the type, the flowers being larger, and also produced in greater abundance. Of these pyrenaica, introduced by Mr. Backhouse, and splendens are perhaps the most desirable. Of the Mossy Saxifrages perhaps the prettiest, both in its large cushions of mossy looking foliage and its bright flowers, is atro-purpurea; it thrives, too, in almost any situation on the rockery, and increases very rapidly; its brilliant starry red flowers set on their soft cushions of moss make it a very attractive object.

Sempervivums.—Of these I have only grown two or three of the most distinct kinds. Arachnoideum is well known for its curious spider's web-like filaments, which spread from point to point of its charming rosettes. It is best grown in poor soil, and with a quantity of broken stones, or in the crevice between two pieces of rock. It will bear any amount of fierce sunlight, for I have seen it in chinks of rocks in the very hottest place in the "Mauvais Pas," near Chamounix, where one would think it could not have found any soil to root in. Our wet autumns and winters, although they do not kill the plant, take away a great deal from its beauty, washing off to a large extent the delicate web-like structure, and it is, therefore, one of those plants which will be all the better for a piece of glass over it in the winter.

Soldanellas.—These form a class of those alpine gems which so often puzzle the cultivator. There is no difficulty, or at least very little, in getting them to grow, nor is it needful for this purpose that they should be planted in a bog, although they like a damp situation. I have had them for many years, and only once did I get them to bloom except when in pots, and this is a kind of culture I do not care for. They are very curious little plants, not showy but quaint, with the fringed edge to their petals.

Shortia galacifolia.—I cannot say much about this pretty North American plant, which has been recently introduced, or perhaps I should say, reintroduced, amongst us, for although I have it on the rockery, where it seems as if it would establish itself, yet, as in most of these new things, it is a very small bit, and I do not look for any bloom until next year.

Thymus lanuginosus.—This, and others of the same fragrant alpine, are very dwarf and neat habited; they come into bloom, too, when a great many of the alpine are over. They form also excellent carpet plants, as most plants push their way through the dwarf growth very readily. They are plants, too, which increase so rapidly that there is constant need of rooting out a good deal of them.

Trillium grandiflorum.—This curious and beautiful North American bulb rejoices in a damp and boggy position, but it is not absolutely necessary for it, as I have seen it in some places doing well in the open borders, but in its native habitat it loves the borders of woods in swampy places, and where that situation can be imitated it will be the best for it. I cannot do this, and it has to content itself with a piece of damp peaty soil, and there it does well. It had at one time the protection of a small bush of *Menziesia*, but this succumbed to the severe winter of 1890, and it still seems to get on quite well.

Veronicas.—Of this numerous genus, so many of which are shrubby and hardwooded plants, the most useful for the rock garden is *Veronica repens*, a miniature form, which hides with its dense and dwarf foliage all the surface of the ground where it is planted, and covers itself in early summer with a profusion of deep purplish blue flowers, very deep in colour. This and its near connection *rupestris*, are admirable plants for quickly covering a space, and will not interfere with the growth of many plants.

In bringing these notes to a conclusion I can only repeat what I have already said, that there are many plants which, however beautiful in themselves, are confessedly difficult of cultivation, and therefore I have not broken my heart over them. I have not that ambition (more's the pity!) of succeeding where others have failed. I leave this to other and more skilful hands. I have merely brought under notice those which I myself have grown, and which, therefore, I can assert anyone may grow with ordinary attention. As I have stated, the rock garden will accommodate a good many guests, for literally hundreds of species of plants may be grown upon one even of moderate proportions. The chief beauty of the alpine garden is in early spring, and its characteristic is not so much brilliancy as quiet, chaste beauty; its tones are not those which attract by their brightness, but by their harmonious blendings with their surroundings when spring creeps on to early summer. Although some of its denizens still remain to greet us its glory is gone, and we have then to turn to the herbaceous border for the brilliancy and grandeur of form which are to be our chief enjoyment during the summer months. The charming little *Scillas*, *Chionodoxas*, *Primulas*, &c., give place to *Delphiniums*, *Spiræas*, *Lilies*, and other fine growing and stately plants, all beautiful in their way, but all essentially different from the variety which enchanted us in early spring, and for these reasons the growth of the alpine plants is well deserving of more attention, and, let me add, brings one into contact with many whom it is a pleasure and delight to meet. There are men who have gone about a good deal who could tell you many a story of their wanderings in search of their pets, and then there is the additional pleasure of being able to give to others what you yourself have obtained. These are surely sufficient reasons why all who love a garden should seek to establish a rockery.—D., *Deal*.

NOTES ON TOMATOES.

IN visiting several Tomato establishments it was very satisfactory to find that upon the whole the traces of disease were very slight, although no place was entirely free of it. The establishment of the cousins Buchanan was the most extensive of those visited. Besides the houses formerly erected, which are being converted into peacheries and vineries, they erected during the past spring six additional structures, each 130 feet long, built in threes, ridge and furrow. The centre ones are 16 feet wide, and the outside ones 12 feet. The six houses cover a superficial area of 10,400 feet, and are to be devoted to Tomatoes. The plants in

the old houses are looking well, and carrying a good crop. These in the new houses are late, but if the autumn is fine they, too, will produce a good crop. Altogether things are looking very encouraging with them in that out-of-the-way, dreary spot, Cauldham, Kippin.

My own crop is very good, but as for varieties they require to be restricted. Prelude is too small if one wants the top price. It has a fine sturdy habit, and is very prolific; I have counted as many as forty-seven fruits on 3 feet of stem. I have crossed two or three of the large fruiting varieties with it, from which I expect to get something good. The fruit is very round, in compact trusses, and of good colour. I have two varieties of it. One has red fruit and small foliage, the other has large and dense foliage, with a pinkish purple fruit. Eclipse (Austin's) is one of our sheet anchors. The fruit is of good size, globular, rather deep than broad, sets freely; the truss is compact, and bears from four to eight good sized fruits; the foliage is lax. Ham Green Favourite has a medium sized fruit of good colour, but the truss is weak and very straggling, dividing into several branchlets. Northern Beauty (Dickson, Brown, & Tait's) very much resembles a selection I have from Ham Green. The fruit is deeper than the type and darker green in colour when young. Perfection (Carter's) belongs to the large-fruited section; the foliage rather dense. It is not a free setter, and is apt to show a large scar where the flower has been. I got a packet of Clibran's Tomato from the introducers, in which there was more than one distinct variety. What I take to be the true one is of the large section, resembling Perfection very much in shape of fruit, but not so subject to show the large central scar; the foliage is more elongated, the trusses strong and compact, carrying three to five fruits. Altogether it is a desirable variety. Plentiful, introduced during the past spring by Messrs. Sharpe of Sleaford, is a good all-round Tomato of the large section, very pleasant to eat.

The solidest and the one which I consider the best in flavour and appearance is a seedling raised this season from a fruit of the Jersey Vinery Company's Tomato, which I picked out of a basket last season. All those planted are the true variety except this one. It is so solid that fruits of quarter-pound weight have not produced more than fifty seeds. If in another season it comes true to the original I will send some fruits for your inspection. I send you two diseased fruits. When the disease shows first it has the appearance of Grapes when scalded; the skin loses its vitality, and the flesh, particularly among the seeds, assumes a black colour. I have failed to trace any appearance of fungi upon the skin, therefore think it must arise from something within. When saving seed I have often observed some with a black spot upon them. May not these seeds with the black spots be the centre of the disease? Eclipse is the most subject to it, although Ham Green and Northern Beauty are not clear.—G. McDougall, *Stirling, N.B.*

WALLFLOWERS IN POTS.

THESE popular and exquisitely scented flowers are not so much grown in pots as they deserve to be. Possibly the reason for this is that they are considered common. Yet notwithstanding this, I believe a good batch of plants in flower during the early spring months would be a welcome addition to any garden where they have not been previously grown in pots. In establishments where large cool conservatories have to be kept gay they are especially valuable, not alone on account of their bright colours and sweet perfume, but also because when the flowering period is over they may be consigned to the rubbish heap, and thus make room for other plants at a time when pressure for space under glass is at its height. I consider that the yellow varieties are far the best for pot work, because they supply flowers of a colour which is generally scarce, yet much needed during early spring. Cinerarias and forced bulbs are then in full beauty; in both these classes of plants blue and purple flowers predominate, and the effect produced by arranging among them a few dozen plants bearing bright yellow flowers may be so easily imagined as to need no description.

From the present time till the end of the month is a capital period during which to place the plants into their flowering pots. Those which have been grown in the reserve garden for spring bedding should now be bushy plants in just the right condition for lifting. The requisite number should be taken up carefully with a trowel and placed in 5, 6, and 7-inch pots. The first two sizes will need no other drainage than is afforded by placing a single potsherd over the hole, and covering it with a good thickness of Mushroom bed refuse; but the 7-inch pots should have a layer of smaller crocks placed over the one at the bottom. Very little soil will require to be added as the potting proceeds, for there is generally quite as much adhering to the roots as can be pressed into the pots used, with the exception of the little necessary to

finish off the surface. Fairly good garden soil enriched with Mushroom manure answers this purpose well.

After potting the best position for the plants is behind a north wall, where they should receive a good watering through a rose, and should the weather prove bright be syringed once a day till established. As soon as sharp frosts are anticipated as many plants as room can be found for should be placed in cold pits and the remainder plunged in ashes over the rim of the pots in the open air. By the time the bulk of the Chrysanthemums have done flowering there is generally a considerable amount of space available in cool houses, so that the whole batch of Wallflowers may be given more or less favourable positions, where they will come into flower a few weeks earlier than plants in the open air. There are few subjects which give so great a return in beautiful and scented blossoms for the small amount of labour involved in their culture.

Liberal watering with liquid manure or applications of the many good artificial manures advertised add greatly to the size of the flowers and give them a more vivid colour. The best varieties for the purpose are Veitch's Selected Yellow, Belvoir Castle, and Golden Tom Thumb.—H. DUNKIN.

DWARF PERENNIAL PHLOXES.

PHLOXES that need no stakes, that form compact bushes a foot or very little more in height, and that bear dense heads of flowers fully equalling in size, brilliancy, and diversity of colouring the varieties of the ordinary decussata type commend themselves to more than casual attention. Of such there are now many flowering profusely in the gardens of the Royal Horticultural Society at Chiswick. They have come from various quarters, but the majority are probably of French extraction, and Lemoine may be mentioned as prominent among those who have experimented with such gratifying results on a class of plants that are admittedly of great value. It would be well if the good points of the race could be indicated without throwing any disparagement upon those of the taller type, for these have done, and probably will continue to do, good service; but the differing characteristics of the two classes can only be made clear by direct comparisons. Bold and beautiful as are the tall varieties, they possess a distinct disadvantage in the necessity they impose for free staking ere they can be considered safe from the effects of wind and storm, and a still greater one in their aptitude to become bare and unsightly at the base, necessitating their association with other plants of lower growth before a completely satisfactory effect can be said to have been achieved. Many will have admired the noble effect of large groups when they are seen lifting their huge clusters above dwarfer plants in mixed borders; but when there are no such companions their beauty is frequently marred by an unsightly base. It is as though the effect of an irreproachable coat and a glossy hat were discounted by a pair of seamy and weather-worn boots.

In a select gathering of such dwarf Phloxes as those at Chiswick there is not only perfect beauty of blossom but abundant leafage to the surface of the soil. The plants vie, in fact, with the nana compacta section of the annual Phloxes, of which a good strain is admittedly far superior to the old Drummondii type. They average a foot in diameter, and that or a little more in height. All are floriferous in a marked degree, although in some the inflorescence is scattered, while in others it is gathered in large heads. The flowers vary somewhat in size, but the majority are about as large as a florin, and their wide range of colouring leaves little to be desired. Some of the varieties are selfs, such as rose, carmine, and mauve; others are oculated like Verbenas, or like the best varieties of the annual Phloxes, and these are certainly not the least beautiful. That they would form magnificent groups is well demonstrated at Chiswick, and moreover they would be quite capable of relying for effect on their own resources, not requiring the co-operation of companion plants to hide defects. No staking whatever is required for the dwarfest of them; they no more need support than a Zonal Pelargonium; and for the tallest, which run to 1½ foot in height, one slender stake is ample.

The Phloxes at Chiswick are grown in a series of mixed beds—that is to say, tall and dwarf are associated together. This, though perhaps not so intended, affords the needed comparison between the habits of the plants, and the dwarf compact growers can be picked out readily in passing along the beds, their lowly stature being accentuated by the greater altitude of the "big brothers" beside them. Many of the latter are extremely beautiful as varieties, and their high merit is borne witness to by the three marks which many of them have earned; but those to which brief reference are now made range only from 12 to 18 inches high, the majority being nearer the former than the latter figure. Faust (Lemoine) stands out conspicuously as one of the best and most

beautiful of the collection. It does not exceed 1 foot in height, and is remarkably sturdy, carrying a profusion of oculated flowers, these being white, with a faint rose centre, and of the largest size. Bournouf (Lemoine) is somewhat taller, approaching 1½ foot, but is compact, and its flowers are of a most brilliant red hue. Croix de Sud (Forbes) is another extremely beautiful oculated variety, the flowers being white, with a bold and clearly defined eye of rich rosy crimson. They are large, and freely produced. The height is about 1 foot, and the habit bushy, decidedly one of the best. Eugène Danganvilliers (Forbes) is about 1 foot high, the flowers being pale mauve, and borne with great freedom. Roi des Rosiers (Forbes) somewhat belies its proud title, for the colour is mauve, with a rosy suffusion rather than pure rose, but it is an admirable variety all the same, for its height does not exceed 1 foot; the flowers are numerous, and the colour is eminently pleasing. Bayard (Forbes) 1 foot, may be described as a bright rose, and is a good representative of this rich and effective hue. Le Soleil (Forbes) 1 foot, rich rose, with white centre, is another most beautiful variety. Jeanne d'Arc (Forbes) is useful as a pure white, and the flowers, though small, are abundant. Hirondelle (Forbes) is distinct and beautiful, the colour being of the most brilliant rose, with a deeper eye. Pluton (Forbes) 1½ foot, is a deep glowing crimson, and very free. Felibvre (Dickson) 1 foot, is a rich carmine, and the flowers are abundantly produced. Henri Murger (Lemoine) 1 foot, is white, or rather white with a tendency to lemon, and has a rich crimson eye; the flowers very large. Nain Bébé (Forbes) 1 foot, is rich carmine.

While it would be regrettable if the utilisation of the tall section for positions to which they are specially adapted should become limited, there are undoubtedly others in which they might give way with advantage to the dwarfer sorts. It would be well if the latter could be collected into a group by themselves, and considered as a distinct class of material. It is certain that beautiful effects could be secured by grouping them in beds, and their value would not be lessened by the fact of their beauty developing when that of the great majority of summer flowers is on the wane. The colours of many are so brilliant that few other arrangements could exceed them in richness, while any tendency to garishness could be toned down by a judicious contrast with the more refined hues of the oculated flowers. Small groups would be effective, too, in mixed borders.

When autumn approaches perennial Phloxes are the glory of many suburban gardens, raising their huge clusters aloft in generous profusion; but they often present their best aspect to the passer-by. Were their places taken by select dwarfer varieties, the loss of the outsider would be the gain of the grower.—W. P. WRIGHT.

CASSIA CORYMBOSA.

CONSIDERING that this beautiful greenhouse plant has been in cultivation for nearly a hundred years it is surprising that it is not more often met with, for there are few plants more easily grown or which more richly reward the cultivator. Grown as standards in large pots or tubs they are truly magnificent objects for large conservatory decoration through August and September, a time when flowering plants are not too plentiful.

September is a good time to root cuttings of this plant if intended to be grown into standards, as then by keeping them growing through the winter months in a warm greenhouse, the stem will attain the required height, and with proper attention a good head can be formed that will flower the following August. The details of culture are few and simple, but they must be attended to, otherwise the cultivator will only secure strong flowerless shoots. This can be prevented by constantly pinching back the strongest growths until the head has become sufficiently dense and symmetrical. If possible the last stopping should take place early in May, and when the shoots have again started freely into growth, which will be early in June, the plants should be stood out of doors in a sheltered place. This will induce a sturdy short-jointed growth that will be crowded with flower buds early in August, and this, combined with constantly stopping the young shoots until May, is really the only secret of inducing the plant to flower freely in pots. When the flowers begin to open the plant should be accorded a light place in the conservatory, where they will continue objects of beauty for at least two months.

The flowers are of a bright cheerful yellow, and disposed in numerous corymbs along the upper ends of the young shoots. The plants thrive in three parts fibry loam to one part each of leaf mould, old Mushroom bed refuse, and sand.

After flowering they should be gradually dried off and be stored out of the way of frost in the same manner as Fuchsias. Before starting into growth in early spring, all the branches that form the head should be cut boldly in at from 4 inches to 8 inches

of the crown, care being taken to cut so as to lay the foundation of a large globular head. In all subsequent spring prunings the main branches should be cut back to within two joints of the previous

size pot, and in this way plants may be kept in vigorous health for many years.

I have been induced to enter somewhat minutely into the culti-



FIG. 32.—CASSIA CORYMBOSA.

year's pruning. After well soaking the old ball of soil turn the plant out of its pot, and with a sharp suitable implement cut off 3 inches all round the ball, and 3 inches off the bottom above the drainage. This will allow of the plant being placed into the same

vation of this Cassia from remarks made by a correspondent a few weeks since, in which he hinted that it would not flower satisfactorily in pots. If grown in the way described above it will be found to flower profusely, both as bushes and standards.—J. H. W.



SHOW SCHEDULES.

SCHEDULES have been received of the shows organized by the Birkenhead and Wirral Horticultural Association and the Finchley Chrysanthemum Society. The former is fixed for November 10th and 11th, the latter for November 10th.

MESSRS. W. & G. DROVER'S COLLECTION.

HAVING been staying at Southsea recently, I thought, being in their immediate neighbourhood, I would pay a visit to the celebrated Chrysanthemum growers Messrs. W. & G. Drover at Fareham, and accordingly took an early train to that neat and exceptionally clean little town. On arriving I had no difficulty in finding the nurseries, and received a cordial welcome from the firm. Thinking that as the season for this beautiful flower is now so rapidly approaching a few particulars of my visit would be acceptable to those of your readers who are, like myself, interested in the growth and development of this plant I append them.

On entering the gate of the nurseries a walk of Chrysanthemum plants was right in front of me, all looking in the best possible condition and with wood in many cases as large as an ordinary walking-stick. This long line consisted wholly of Japanese varieties, of which I took special notice of Mrs. S. Dibbens, undoubtedly the best grower in the whole collection. It was about 3 feet 6 inches in height, with large leathery foliage, and carrying three very promising buds on each plant. Middle M. Hoste is very similar, but a trifle taller. Mrs. F. Jameson is of noble strength, about 4 feet high, and carrying three buds each. There is a grand lot of Viviani Morel, about 5 feet high, with very good buds, also Puritan, Sunflower, Etoile de Lyon, and its sport Miss L. Cope, Florence Davis (by this firm considered the finest white of true Japanese form), standing about 6 feet, and some older varieties, such as Condor, Lady Lawrence, M. E. A. Carrière, and Stanstead Surprise, all with good foliage and well set buds, standing about 8 feet high.

Of the incurved section I found most noticeable the Princess family (with the two new sports May Tomlin and Richard Parker). These are all in one row, are about 7 feet high with good wood and foliage and buds just taken. The Queen family this season are not so tall as last year, but are very short jointed and give every promise of good blooms. The Teck family are looking uncommonly well, in fact could not look better. Prince Alfred and Lord Wolseley are carrying splendid foliage with good sized wood and buds just showing. I could enlarge greatly upon this excellent collection but must not trespass too much upon your valuable space. I will conclude with a reference to the hairy varieties principally, Mrs. Alpheus Hardy having good strong, well ripened wood and foliage; the buds were taken about a fortnight ago and are now swelling well with good stems. Louis Bøhmer has good strong growth with buds just taken. Miss M. A. Manda, the yellow Mrs. Alpheus Hardy, is of good strong growth with very well shaped buds, giving excellent promise. W. H. Ballantine, bronze, is not a strong grower but rather free in forming buds, and Messrs. Drover think they will not be able to keep it back for the November shows. In addition to these I noted R. C. Kingston, Mrs. E. D. Adams, Miss A. Hartzhorn, Beauty of Castlewood, Vice-president Audiguier, Beauty of Kinsessing, Mrs. F. Clinton, Gloire de Rocher, and a very promising lot of seedlings.

On the whole Messrs. Drover may be congratulated upon the possession of a very excellent collection, which bids fair to enable them to bring their final season of exhibiting to a brilliant and successful termination.—J. MACK.

GROWING GRAPES IN NINETY DAYS.

A LARGE meeting of the Sunderland Horticultural Improvement Association was held on Thursday evening, September 8th, in the Café, Fawcett Street, Sunderland, when a paper was read by Mr. E. Gilchrist, Claxheugh Grove, Sunderland, on "How to Grow Grapes in Ninety Days." It may, perhaps, be as well to say that a statement made by Mr. Gilchrist some time ago caused some excitement amongst the gardening fraternity in Sunderland and its vicinity, so that the announcement of a paper by him on the subject brought a most crowded meeting.

Breathless silence prevailed during the time Mr. Gilchrist read his paper, of which the following is a brief synopsis:—

A Hamburgh house was started on the 6th of February, 1892. The temperature for the 6th, 7th, and 8th of February was 85° by day and 75° at night. From the 9th to the 29th of February it was 95° by day and 85° by night. Throughout the whole of March it was 95° to 100° by day and 85° at night. In April it was 5° less each day till 70° was reached. Till the fruit was ripened these Vines were syringed with a weak solution of nitrate of soda at a temperature of 90°, and the Vines were watered as well. Mr. Gilchrist declined to state the proportions till he has had more experience in the use of it.

We have stated the temperature. On the 17th of February the wonderful bud burst. The Vines flowered on the 19th of March, and on the 28th of March the bunch was thinned, the berries being about the size of No. 4 shot. The bunch was ripe and cut on the 4th of May. The bunch was 15 inches from the evaporating pans, which were filled with ammonia from the commencement till the first bunch was cut. The remaining bunches were from five to ten days later, the house generally ripening in 120 days.

Mr. Gilchrist considers two strong points in favour of the system he has adopted. Firstly, in disbudding the Vines he leaves the basal bud and the terminal bud in each shoot, which he considers will make early Vines quite fourteen days earlier. The second is watering and syringing with nitrate of soda; but he does not recommend the general adoption of his practice, as the chlorophyll in the Vine leaf was not so apparent as he would have liked in June last, and in future he will try the system on pot Vines.

A most interesting discussion followed, when several questions were put to Mr. Gilchrist as to the previous statements he had made to the Society. In reply he said his son stated the house was started instead of closed on the 1st of January this year.

Mr. W. T. Bolam was in the chair. The late Secretary and Treasurer, Mr. J. L. Richardson and Mr. Falconbridge, have resigned their respective positions, and it was resolved that some recognition be made of their valuable services to the Society. Mr. Falconbridge has for many years been foreman at Ashburnham, Sunderland.—BERNARD COWAN.

JUDGING HERBACEOUS FLOWERS.

It will, I fear, be difficult to arrive at a common understanding upon this subject. I suppose most of those who take an interest in hardy flowers have been time after time astonished at awards of prizes to stands of herbaceous flowers which seemed hardly to merit the distinctions given. Mr. Garnett's letter is, therefore, none too soon, and I for one should like to have the views of those who are called upon to judge at shows. Looking at the subject from the point of view of one who is anxious to see the cultivation of herbaceous plants largely extended, I am somewhat doubtful of the wisdom of what I may call the "large spike" system, which would lead to some flowers being cultivated in a manner that lends no beauty to a garden. At the same time there are many plants which should be exhibited in single spikes, or at least in such a way that the individual character of each spike should be seen. There are, again, some flowers which are of little decorative value unless exhibited in bunches. This may be seen in many of the Composites, or in such flowers as *Scabiosa caucasica*, a bunch of which has a telling effect in a stand of cut flowers.

Where there are prizes provided for Phloxes I should be inclined to debar exhibitors from showing these with the herbaceous flowers. Delphiniums occupy a different position, as prizes are seldom offered for these; but I should be disposed to agree with what I take to be Mr. Garnett's opinion, that varieties of these should not be exhibited in the same stand, as tending to weaken the value of the exhibit. With Lilies and Campanulas the case is entirely altered. There are certainly so many different forms that several varieties may be included without weakening the stand. I should say, however, that it is highly desirable to try the experiment of prizes for cut spikes of Lilies grown out of doors, and of excluding these from the herbaceous classes. I know of cases in which Lilies have gained more points than they were entitled to count.

Then, again, the discussion of this question opens up another. What is an herbaceous plant? Some time ago (last autumn I think) a stand was disqualified on account of a *Colchicum* being included. The *Journal*, rightly as I think, took exception to the decision, which could only have the effect of limiting the choice of exhibitors. Generally speaking I think the extract given by Mr. Garnett from the schedule of his Show is a good instruction, but I should fear that in practice it might lead to a hesitation to include new plants, lest they should not recommend themselves to

the judges. This, however, Mr. Garnett, from past experience, should be able to tell us. I hope, however, that the discussion may lead to some more intelligible system than the present one.—S. ARNOTT.

I FEAR that under the conditions suggested by "Devon," page 211, one variety of any flower only being admissible, small growers would require to increase their stock of herbaceous plants if they wished to enter the competitive classes. Surely there is a wide distinction between *Lilium auratum* and *Lilium candidum* or *L. Harrisii*. I have had some experience of the peculiar fancies of judges when adjudicating in these classes. I have had to be content with second place when *Hydrangea hortensis* was included in the first prize stand, and on another occasion a similar stand contained *Spiraea callosa*, a shrub which is easily enough grown 6 feet high in a couple of seasons, and in a very few years will make as much wood as is required in a good-sized faggot. Surely a plant which has this capability hardly comes under the true definition of an herbaceous plant. Many more examples of a like kind could be quoted, all tending to prove that the judging of herbaceous plants is not at all times as it should be, even when the conditions are exact. In spite of this, however, committees are responsible for the correct wording of the schedules they issue.—E. M.

A QUAIN T GARDEN.

CLOSE to the waves of the beautiful Firth of Forth there is a garden more quaint than any I have seen elsewhere. I was sauntering along the sandy beach which borders the Firth near West Wemyss when I noticed what seemed to be a wild garden straggling up the cliff bank. A door opened in the wall, and the gardener came out and invited me in, saying that I should find Shakespearian borders and the plants mentioned by old Parkinson, and that botanists from Edinburgh often come to see the different things collected there. So nothing loth I went in, having plenty of time at my command. The first thing which struck me was a curious sundial. It stood on a grassy hillside, a tall iron index some 6 feet high hung round with creepers, such as common Ivy, *Canariensis*, and *Nasturtiums* growing carelessly about it. In a huge circle the hours were represented in immense figures done in variegated Box, and on the south the name "*Lilian Wemyss, 1890.*" In another circle round the dial, and done with Box in the same way, "*The Lord will make His face shine upon thee and be gracious unto thee.*" Not far from these circles stood an old tree decorated with heart-shaped pieces of wood, painted white with various legends taken from *Ecclesiastes*, *Coleridge*, *Emerson*, &c., such as

"One God, no more; but friends good store."

And on one,

"These beds are round and without ends,
So is my love unto my friends."

Which words refer to two immense circles round the tree tied at the end by a true lover's knot done in Ivy. In the borders which form these circles, and which are about 2 feet wide, are plants of all kinds, only named on tall labels with the name of the giver also underneath. I noticed that *Lily of the Valley* was presented by the Portuguese Minister. *Andromeda floribunda* was given by Mr. Menzies, and was doing well. *Lilium Harrisii*, given by Col. Vivian, was represented only by its name, which is not surprising. Miss Balfour had given "*Anemone hepatica cœrulea*" (*sic*), which to my surprise was in flower in August, but certainly everything was wonderfully late in Scotland this year. Other plants had the names of their donors—Earl of Dunraven, Countess of Clarendon, Mrs. Oswald, &c.

There is not a level piece of ground in the whole garden except a narrow strip by the wall on the seaside. This is occupied with a fine collection of *Hellebores*, which look exceedingly strong and healthy, although they have only been planted for a year or two. On the opposite bank to the sundial are two long borders, one the temperance border, in which all the flowers are white, the other the love border, in which all the flowers are red. Further on are the Shakespeare and Parkinson borders, which are exceedingly quaint and full of extracts from the great dramatist and the herbalist, alluding to the plants growing round the wooden mark on which the quotation is clearly printed. At a corner of the Parkinson border are these words: "*The manner and ordering of many sortes of Herbes and Rootes as used in this Kingdome.*" Then you come to a curious mixture of many things all duly named, Potatoes, Rhubarb, Fennel, Succory, Alisanders, Marigold, Comfrey, and Rue Herbegrace, whatever that may be. Then another quotation: "*Of sweet Herbes as fitter for the pot and kitchen than for the hand or bosome, and such herbes as are of*

most necessarie uses for the country gentle women's houses." Again another: "*The ordering of divers sortes of Herbes for the pot, for meats, and for the Table.*" And again: "*Of divers Physical Herbes fit to be p'anted in gardens to serve for the especiale uses of a familie.*"

Next we come to the Shakespeare borders, which are sprinkled with a great number of quotations in the same way as before, the well-known words, "*I know a bank whereon the wild Thyme grows,*" stand in the midst of a good clump of Thyme. The bits of wood on which these quotations are painted are frequently cut out in the shape of a butterfly. "*Here's flowers for you,*" ("*Winter's Tale*") stands at the head. In these borders I found a Date Palm, which apparently had stood the winter, by it the words, "*They call for dates and raisins in the pastry; the favourite vegetable of our Welsh neighbours with the words, 'His eyes were green as Leeks;' Radishes, 'For all the world like a forked Radish;' and Rushes, 'Lean not on a Rush.'*"

On a high bank behind the garden, and forming a very pretty background, is a plot of Irises, labelled "*Jardin délices (des lys)*" and quotations from Longfellow:—

"Thou art the Iris fair among the fairest,
Who arm'd with golden rod
And winged with celestial azure, bearest
The message of some god."

and on another label among the flagleaves of the Iris,

"Oh, flower de luce, bloom on, and let the south air
Linger to kiss thy feet;
Oh, flower of delight, bloom on, and make for ever
The world more fair and sweet."

On the sea wall, under a cover which was secured by a padlock, was a very beautiful sundial; the gardener showed it to us with a great deal of mystery. Scattered about on "the brae," as the gardener called it, were some fine Foxgloves which looked well, also some *Lilium pardalinum* more than 6 feet high. In the centre of the garden was a "Rose tent," a large circular bed with a sort of huge skeleton umbrella over it. Roses of various kinds are being trained to the wires which are fastened in the centre to the top of a tall pole. This will require some years to pass away before it can attain its full beauty.

We went on further to the fine gardens at Wemyss Castle, where Mr. Clarke, the head gardener, showed us over his exceedingly beautiful and well-kept garden with true Scotch courtesy. Mr. Clarke has also, of course, the superintendence of the quaint garden by the sea. But at the Castle the beds and ribbon borders are a perfect blaze of colour, Pansies especially growing with great vigour, and bearing masses of bloom. Mr. Clarke informed me that sea salt often covers the walks with a white crust after a storm, and that he had found it utterly impossible to cultivate Vegetable Marrows in any corner of the garden. I expressed some surprise that the beautiful creeper so common in Scotland (*Tropæolum speciosum*) was nowhere to be found, and we were told that it would not grow on the shores of the Firth of Forth. I had, however, seen it not far from the Forth, but a little more inland, where it was doing well. I forgot to mention that the quaint garden by the sea was made much more interesting by the ruins of an old abbey, which stood at one end of it. But little of the abbey is left, still the remains of an old tower, with doves flying about, certainly add not a little to the picturesque appearance of this strange garden.—J. L. S.

PLANT CULTURE BY CROSS-FERTILISATION AND HIGH SELECTION.

WE have need at times to visit the experimental grounds of our leading seedsmen to discover what new varieties of vegetables and flowers they are bringing to perfection for commerce. The general public when inspecting flower shows and horticultural exhibitions are naturally amazed at the large number of these new varieties, but they know little or nothing of the amount of artistic skill underlying their production. Just as a sculptor has before his mind's eye an ideal, or the potter in moulding his clay seeks after something more perfect than he has ever wrought, so does the horticulturist in love with Nature and striving to fathom her secrets endeavour by cross-fertilisation and high selection combined to aim after more beautiful flowers and grander types of every kind of plant life than has ever before been seen. Sometimes he has to labour long and suffer grievous failures ere he succeeds, cross-fertilisation being too frequently an *ignis fatuus* to follow. Still, one genuine success compensates for many years of anxious labour, and we need scarcely say that many valuable new varieties have been raised.

This connection between the plastic arts and the creation of new forms of vegetables and flowers was enforced on our attention last week in passing through the Staffordshire pottery district, where exquisite works of art in porcelain are always on view, and then proceeding immediately to the not far distant Kinver gardens and farms of Messrs. Edward Webb & Sons, the world-renowned seedsmen of Wordsley. These

are very extensive, for when we visited them last they were said to be nearly 2000 acres; since then field has been added to field and farm to farm, and only last week a fresh purchase was made which will add another farm to the estate. Messrs. Webb own as well as occupy the greater part of this land, and it is the extension of trade and the colossal scope of their undertakings that render the acquisition of more land desirable. The Wordsley warehouses have been almost entirely built during the past half dozen years, the two largest being each 182 feet long and 62 feet wide with six floors, all 13 feet high. On the site where they stand every bit of ground has been covered with warehouses and offices, except a small bright grass plot, which has been the outlook from the private luncheon-room. But a fresh erection is about to be raised on this, as a considerable increase of clerks had to be made this summer for whom there was no room without hiring offices for them outside.

As is well known, all our leading seedsmen get the bulk of their seeds grown for them in other parts of the kingdom and on the Continent best adapted to the respective varieties, only requiring experimental grounds for testing purposes and for the production of new varieties at home. Messrs. Webb & Sons do the same, over 18,000 acres altogether being required to produce seeds and seed corn for the gigantic Wordsley establishment. The reason that the Kinver farms have to be so large is chiefly owing to the realm of Ceres having been added to the domain in which cross-fertilisation and high selection hold sway. Selecting the best from the best continually from the heads in crops of Wheat, Barley, Oats, &c., requires a broad scope of acreage which only large landowners and farmers can work with successfully. That they have done so for the past quarter of a century, so as to earn the gratitude of the farming community for better varieties of all the cereals than were commonly grown before, is attested to continually by numerous facts, one of which will suffice for our present purpose. The Brewers' Exhibition has existed five years, and at each annual show a challenge cup has been offered, open for competition to the entire world, for the best malting sample of Barley. This has been won each time by the same variety, Kinver Chevalier, one of those which Messrs. Webb have brought to its present high degree of perfection by continuous high selection.

In our visit to the trial grounds we had to pass through the flower gardens first, where we were glad to find many plants in full bloom of considerable merit. New Challenge Antirrhinum was brilliant in colour, and made a grand show. Among several members of the Dianthus family Champion also presented some showy perfect flowers. Chrysanthemums were well represented by White Pearl and Golden Cloud, which stood in beautiful contrast to each other. The New Golden King Calliopsis had a bright golden effective appearance, New Eclipse Gaillardia appearing truly magnificent in mixed beds, and the Kinver expert deems it one of the choicest of the floral beauties he has originated. Hollyhocks were, of course, in grand show, placed in banks on either side of a gravel walk, and there was a New Prize variety brought out in the past season for the first time, which seemed very effective. Of Zinnias and Stocks there were several varieties which asserted their charms very powerfully, the single Dahlias being also noteworthy. In Asters there are marked successes, especially in the quilled and miniature specialties, and among the Marigolds the newest called Golden Striped fully justified high appreciation. Some exquisite floral gems were noticeable in dwarf Pansies, and the Golden-laced Polyanthus is a genuine success, but it was, of course, too late in the season to see their charms, or those of the Poppies, which we were told had been very brilliant.

All the most important kitchen garden vegetables which market gardeners and farmers also grow largely, such as Potatoes, Peas, Cabbages, and white-fleshed Turnips, have been so thoroughly and continually subjected to cross-fertilisation and high selection at Kinver, that a great many valuable varieties have been evolved. The rigorous searching ordeal which has to be passed through gives the public every assurance that there is only a "survival of the fittest" among the many hundreds of new kinds created by cross-fertilisation, so that in regard to Potatoes we may be perfectly sure that the three leading varieties for which Messrs. Webb are at the present day most distinguished, Stourbridge Glory, Wordsley Pride, and Renown, are all of intrinsic value, and likely to hold their own in future. Having stood the test of several seasons they are tolerably well known as grandly shaped varieties of high quality. We pass on then to mention that there are over 300 new seedling Potatoes on trial at the present time, some of which are of high promise, and will probably soon be brought into commerce. Past experience has, however, proved that it is not well to rush a successful variety too soon into the market, however certain it may be that it will be well appreciated. Several of Messrs. Webb's were introduced too soon, for in their second season the demand exceeded the supply. There is, however, one at least of the new seedlings likely to be brought out next year, which, according to the testimony of the expert, will be almost sure to prove of the highest value, not only on account of the tubers being well shaped and very fine, but because they come to maturity a fortnight earlier than any Ashleaf. It somewhat resembles Beauty of Hebron, which is one of its parents.

There are also several very interesting varieties of new Peas which have been a long time under trial, and will probably turn out genuine successes. Considerably over a hundred not yet in commerce are undergoing experimental tests on the grounds, some of which will survive and others fail. The cross is always from valuable parents, but most singular sports are sure to come, the same growth producing half a dozen different varieties perhaps, and every Pea in a single pod is

sometimes different. This shows how necessary rigorous exclusion of all but the most perfect must be. This appears to be carried out most effectively at Kinver, the slightest failing being sure to be visited with discarding, so that in very truth only the "survival of the fittest" is secured. One new seedling Pea which has come safely through every test will be brought out next season. This is a cross between Prince of Wales and Culverwell's Giant Marrow, and it is possessed of sterling features of value calculated to exalt it highly in general estimation. Of medium height, it seems so covered with pods that no leaves could be seen, and the pods when examined were found to be well filled with fine Peas of good quality. There are more than a dozen other new seedling Peas that have succeeded so well that it is almost certain they will ultimately be brought into commerce, but the one above mentioned is just now first favourite at Kinver, and after Talisman, Promotion, Royal Standard, Chancellor, and Wordsley Wonder, all of which are of high reputation and were raised at Kinver, we may, no doubt, expect great things for the future. We have stated that one of the parents of the new Kinver seedling was Prince of Wales, but there are different varieties bearing that name. Mr. H. E. Thornley of the Royal Prize Farm, Leamington, who habitually grows Peas largely to pick for direct sale, speaks in high terms of a Prince of Wales crop grown from Kinver seed, whereas another crop of the same name, but for which the seed was obtained elsewhere, turned out anything but satisfactory.

Messrs. Webb have a new Carrot called Market Favourite, having a very handsome solid appearance recommended for early use, but for general use they recommend their Defiance Intermediate. Emperor Cabbage enjoys such a high reputation amongst farmers and market gardeners alike that it seems almost too much to hope for anything new likely to surpass it, however assiduously the arts of high selection may be employed. It comes to perfection so very early that even in the largest and best kitchen gardens it has place; but the Emperor deserves its name owing to great size and heavy weight, and when cut open the hearts are found to be of high quality. The Kinver Globe Savoy is also very globular, with solidity and excellent quality likewise. In Broccoli we found that the specialties are still May Queen and Perfection, both of which have long been favourites. Gardeners also know something of the Matchless Brussels Sprouts and Perpetual Dwarf Green-curved Kale which have been raised at Kinver. Early Mammoth Cauliflower is often a prizewinner at shows. In Turnips, the variety for table use which has taken most prizes is, perhaps, the Climax, early in growth yet adapted for general cultivation, and good for keeping purposes.

The varieties of Lettuces are innumerable, and some of the Kinver ones almost as big as Cabbages; but if large, Summerhill is also compact and handsome. The American Gathering appears, however, to be of equal appreciation among the Cabbage kinds, while the Cos Lettuces are headed by Monstrous, which, although large and handsome, gives crisp leaves of fine flavour. That Melons are brought to high perfection is proved by two of the best being named Pride of Stourbridge and Beauty of Wordsley; but President and Queen Victoria are also exquisitely shaped, fine, handsome, and good. Snowball Onion has often won prizes at shows, and we need scarcely mention its silvery white skin and good flesh. Among Leeks Colossal has often taken the palm. A great many new varieties of Cucumbers have been brought out at Kinver, and, indeed, the same may be said of Radishes. Celery has been by no means neglected, and Pearl White has come largely into use, as well as the Mammoth Red, which is very hardy, and has gained several first prizes. There is a very large family of Runner, Dwarf, and Butter Beans at Kinver; and the Giant White Runner, the Victoria Dwarf, and Webbs' Golden King Butter Bean are all prime favourites. In Broad Beans Kinver Mammoth Long-pod shows that the art of high selection has been well applied even here.

Ere passing out of the trial grounds we should mention that the grass plots which divide flowers from vegetables form in themselves a most interesting study, each being kept separate to its respective kind. The Fescues are all represented, as well as the Poas, while other sections are devoted to Cocksfoot, Timothy, Meadow Fox-tail, and the Rye Grasses. For lawns of all kinds, whether for tennis, archery, croquet, or cricket, Messrs. Webb supply special mixtures with ample directions. They have for some years also published an illustrated essay on "The Formation of Permanent Pastures," the latest edition of which is full of interesting information.

For agricultural, if not for general purposes, the whole of the extensive farms occupied by Messrs. Webb may be deemed trial grounds in their entirety. Labourers are sent into all the corn crops every year to select the finest heads from all the pedigree or highly selected crops, some being of Webbs' Prolific Black and White Tartarian Oats, or of Webbs' Challenge White Oat and others of the Kinver Chevalier Barley above referred to, or of Golden Grain, Beardless, Goldthorpe and Golden Melon Barleys, or of Webb's Challenge Hybrid King, Windsor Forest, White Queen, and at least a dozen other varieties of Wheat. Of Mangel Wurzel, Swedes, Yellow-fleshed and White-fleshed Turnips the varieties are still more numerous, and a considerable proportion of them have been prizewinners at shows. These are all tried one year after another with the best approved specialties from other seed firms, Messrs. Webb being always anxious to discover whether they can be beaten or not. Nor do their private trials end here. They have now become one of the largest artificial manure vendors in the kingdom, and being desirous to excel as much in this department as they believe they have done in seeds, they try habitually the manures of other leading firms against their own over a wide acreage of Mangel Wurzel, Swedes, Turnips and Potatoes.—D. S. N.



EVENTS OF THE WEEK.—There is a break in the long run of shows, and the ensuing week will be a very quiet one, affording opportunities to attend the various auction sales now announced. A meeting of the Brighton and Hove Chrysanthemum Society will be held to-day (Thursday, September 15th), and the usual Committee meetings of the Royal Horticultural Society will take place on Tuesday, September 20th, at the Drill Hall. There will be bulb sales at Mr. J. C. Stevens' rooms, King Street, Covent Garden, on Thursday, Monday, and Wednesday. On Friday, September 16th, there will be a sale of Orchids at Messrs. Protheroe & Morris's rooms, 67 and 68, Cheapside; sales of bulbs will be conducted every day; and there will be sales of plants on September 19th and 22nd.

— THE WEATHER IN LONDON.—Showery and cold weather prevailed when our last issue was published, but towards the end of the week it became brighter and much warmer. Still higher temperatures were registered on the 11th, though the early part of the day was cloudy, and the 12th was close and hot. The barometer fell considerably towards night, but the 13th remained bright, warm, and fine. At the time of going to press the barometer shows a considerable rise, the wind is westerly and light, and the weather fine, though slightly cooler. On the whole it has been a favourable week for harvesting and fruit gathering, while there is a promise of similar conditions prevailing for some little time. The reports as to the state of the Potato crop are satisfactory on the whole, and the weather has been against the spread of the disease.

— VARIATION OF HARDY PLANTS.—The variation of hardy plants under cultivation has proved a source of interested observation to many growers, and it has been chosen by the Rev. C. Wolley Dod for the subject of a lecture at the next meeting of the Royal Horticultural Society. As an experienced cultivator and close observer he may be trusted to treat it in a manner that will earn the thanks of all flower lovers.

— THE INTERNATIONAL HORTICULTURAL EXHIBITION.—The last weeks are announced of this popular Exhibition, which has done so much to enliven what otherwise promised to be the dull season on record. Buffalo Bill and his Wild West will take their leave on October 12th, sailing for their native shores three days later by the s.s. "Mohawk" of the Atlantic Transportation Company, a vessel of 8000 tons, which has been specially chartered for the occasion. As this will be the very last that Europe is likely to see of Colonel Cody and his great show as an organisation it behoves those who want to pay a farewell visit to the Wild West to avail themselves of the opportunity that is still offered of their doing so. The Exhibition altogether, with the combined attractions of its grand floral display, its splendid music, and the spirited performances in the Wild West arena, forms a pleasure resort that London will be sorry to lose, and which will be gratefully remembered for many a year to come.

— POTATOES AT CHISWICK.—The Potatoes on trial in the Royal Horticultural Society's Gardens were examined on Tuesday last. Out of upwards of eighty varieties twenty were chosen, in consequence of their good and disease-free crops, to be further tested by cooking. We can only say at present that out of these three marks of merit were awarded to Laxton's Short Top, the earliest variety and productive; Boston 22 (Johnson) a fine white round; The Canon (Dean), also sent by Messrs. Carter & Co., an excellent white kidney; Reading Giant (Fidler), a large productive white kidney; Mary Anderson, similar to it; and King of the Earlies, a variety of the Ashleaf type. The table quality of some other varieties was not sufficiently developed through the tubers not being quite ripe, and many tubers of several varieties were tainted with the disease. The members of the Committee present were Philip Crowley, Esq., Chairman; Dr. Hogg, and Messrs. H. Balderson, J. Hudson, G. Taber, G. Reynolds, J. Smith, W. Warren, J. H. Laing, G. Reynolds, A. Dean, G. Clyffe, G. W. Cummins, G. Sage, and J. Wright.

— FIRE PROTECTION AND WATER SUPPLY.—A pamphlet on the subject of the fire protection of towns and buildings, with remarks on water supply, has just been published. The author is Mr. J. Compton Merryweather, M.I.M.E., who is well qualified to deal with the subject treated.

— FICUS ELASTICA AND ASPARAGUS FRUITING.—There is here (Tynningham) an old plant of *Ficus elastica* kept for propagating purposes, which, in most seasons, brings a crop of fruit to maturity. *Asparagus plumosus* also fruits, and *A. tenuissimus* carries large crops of berries.—B.

— CACTUS DAHLIA MATCHLESS.—This new variety obtained a first-class certificate at the Reading Show recently. It was exhibited by Messrs. Perkins & Son of Coventry. The variety has good red flowers of the rich dark hue of Empress of India, but is of true Cactus form, and should later be found in the best collections.

— DEVERILL'S PEDIGREE ONIONS.—The annual display of Deverill's Pedigree Onions, grown in different parts of the United Kingdom, will be on view at the Royal Oxfordshire Seed Establishment, Cornhill, Banbury, on Thursday and Friday, September 15th and 16th, when valuable prizes will be awarded. They will be worth inspecting by any grower of this useful vegetable who may have an opportunity of calling. The entries number ninety, the specimens 1264. The heaviest dozen bulbs are Ailsa Craig, which weigh 26 lbs.

— MELON SUTTONS' A1.—If I were to say that this Melon is destined to occupy as prominent a position amongst the scarlet-fleshed varieties as Hero of Lockinge does amongst the green-fleshed, I should not be very wide of the mark. Having tried it last year, and again this year, I have proved it to be equally as good for frame as for house cultivation. It is a good grower, a free setter, and beautifully netted. The fruit is of great depth, and the flavour is, as the name implies, A1. It is a real gain, and therefore worth acknowledging.—R. P. R.

— SHOW AT GHENT IN 1893.—We have received a schedule of the great Show that is to be held by the Royal Agricultural and Botanical Society of Ghent from the 16th to the 23rd of April, 1893, and of which previous announcements have been made in the columns of the *Journal*. As 660 classes are provided it will be clear that the Show will be of a comprehensive character, admitting a great variety of exhibits. Readers may be reminded that Comte O. de Kerchove de Denterghem is the President of the Administrative Council, and M. A. L. Rosseel the Secretary.

— MESSRS. PROTHEROE & MORRIS.—These well-known auctioneers have acquired so large a connection by enterprise and sound business methods that it is no surprise to find that they have been compelled to considerably extend their City premises. A large and well-lighted room has been secured immediately at the rear of their present large sale-room at 67 and 68, Cheapside, and can be entered from the latter or from 3, 4, and 5, Queen Street. It will be illuminated by means of the electric light, and will add so materially to the facilities at the firm's command that a considerable extension to their already large scale of operations can be effected.

— CYCLAMEN NEAPOLITANUM.—At this time of the year few prettier effects are produced than a good flowering clump of this hardy Cyclamen, especially when planted in a nook on a rockery. The flowers stand about 6 inches above the soil, and are produced plentifully from the large, flat tubers. The leaves are cordate, about 2 inches long and the same broad; they commence to unfold when the plants are flowering. The flowers are white or pink and red with a purple base, the corolla segments about three-quarters of an inch long. Though introduced from South and Central Europe *C. neapolitanum* is quite hardy, and has become naturalised in many parts of Britain.—C. K.

— THE HERB MACE.—I have been a constant reader and subscriber to your valuable *Journal* from the year 1852, and the whole of that time this herb has been grown. It is commonly used by cooks with other herbs for making force meat for fowls, &c. I have taken it into the kitchen when a boy, and have sent it in ever since. Some months back I was asked its botanical name, and could not give it. I have been taught that *Achillea serrata* has a yellow flower; the example I sent to you has a white flower.—JOHN COPE. [*Achillea serrata* has white flowers. Our correspondent omits his address. We shall be glad to have a few rooted offsets of the herb, which we know is grown and used in the North of England.]

— **DEATH OF M. JOLIBOIS.**—The death is announced of M. Jolibois, head gardener at the Luxembourg, at the too early age of forty-nine. The French horticulturist was an able gardener and his loss will be much felt. He held various distinctions, such as Officier d'Académie, Chevalier du Mérite Agricole, and Chevalier de la Légion d'Honneur. He was also a member of the Council of the French Horticultural Society and a Professor of Arboriculture.

— **CLEMATIS DAVIDIANA.**—A notable feature of the miscellaneous collection of hardy flowers exhibited by Messrs. Pitcher & Manda at the last Earl's Court Exhibition was Clematis Davidiana, a hardy herbaceous species growing about 2 feet high. The flowers are produced in whorls, of which there are two or three on a stem, the lowest close to the ground, so that the plant has the appearance of being a mass of bloom. The individual flowers closely resemble Hyacinth bells, and are of a clear lavender colour. It appears to be well worth adding to the mixed border.

— **A HANDBOOK OF IRIDÆ.**—The "Kew Bulletin" for September contains special articles on Caraguatá Fibre, Lagos Palm Oil (with illustrations), and commercial Vanillas, also a considerable amount of miscellaneous information. We note an announcement that Mr. J. G. Baker, F.R.S., has in the press a handbook of Iridæ, uniform with those which he has already published on the neighbouring orders Amaryllidæ and Bromeliacæ. The order contains about sixty genera and 800 species, nearly half of the latter being concentrated at the Cape. The large garden genera of the order are Crocus, Iris, and Gladiolus. More than one-half the book is already printed, and it will be completed in a few weeks.

— **FRANCOA RAMOSA.**—An indispensable plant for greenhouse or conservatory decoration at this season of the year is Francoa ramosa. When associated with other plants, more especially in grouping, its long spikes of white flowers suffused with pink have a telling effect, and add a charm to a group which cannot be denied. Small plants in 5 or 6-inch pots are most useful for house decoration, especially if they have been well grown and the foliage kept perfect. It is also a most accommodating window plant, scarcely requiring any heat, and always sure in flowering. Plenty of seed may be secured, which if sown as soon as ripe, and placed in a warm temperature, will yield abundance of useful little plants for another season. It may also be increased from cuttings or by dividing the plants. As to soil, any good loamy soil with a little sharp sand will answer all requirements.—R. P. R.

— **APPLE IRISH PEACH.**—I make no apology for bringing before the notice of your readers such an excellent early Apple as the Irish Peach. It is not by any means a new variety, but there is no reason why it should not have attention called to it on that account, for it generally takes a long time to establish the merits of a good fruit; it took half a century to establish the fame of Cox's Orange Pippin. The Irish Peach is, for juiciness and flavour, as far ahead of all other early English grown dessert Apples I have tasted as Cox's Orange Pippin is of the later kinds, and it should take first prize for quality against all inferior sorts, however pretty they may look. I have had a capital crop this season of fine, clean, healthy, and well ripened fruit, and with me Irish Peach is a good grower and an abundant bearer; care is, however, needed in pruning, as its tendency is to bear on the points of the shoots.—F. BOYES, *Beverley*.

— **STRIKE AGAINST MARKET TOLLS.**—Some excitement was caused at the Brighton Market on Saturday morning by the seizure of several bushels of Potatoes and a bushel of Apples from a market gardener named Cuddington of Shorcham in consequence of his refusal to pay the market tolls. At Brighton there is no covered vegetable market, and the gardeners who come into the town are compelled to stand out in the streets in the vicinity of the flower market, and to sell their produce exposed to all kinds of weather. For some time past a feeling has been growing that the Corporation have no right to charge tolls without supplying adequate market accommodation, and on Thursday morning many of them refused to pay the tolls when demanded. It was subsequently arranged on both sides that a seizure should be made from Mr. Cuddington, and that the goods should be sold by auction to cover the amount of the toll he refused to pay and the costs. This it was decided should be done as the basis of a test case. The arrangement was duly carried out, and the sale took place amidst some good-tempered excitement. Mr. Cuddington urged the crowd not to bid for the goods, declaring that their seizure amounted to nothing less than robbery, and that the purchasers would be buying stolen goods. Despite

this protest the lots were disposed of, more than one being purchased by Mr. C. Sutton, a member of the Corporation. The sale realised 17s., and after deducting the toll, 1s. 6d., and the costs, there remained an overplus of 4s. This was offered to Mr. Cuddington, but was refused. The gardeners have not yet decided what course they will take to raise the question of the legality of the tolls in the law courts. Several courses are, it is said, open to them.

— **AUGUST RAINFALL IN SUSSEX.**—The total rainfall at Cuckfield, Sussex, for the past month was 2.61 inches, being 0.31 inch above the average. The heaviest fall was 0.70 inch, on the 18th. Rain fell on sixteen days. The highest temperature was 79°, on the 17th; the lowest 46°, on the 11th. Mean maximum, 72°; mean minimum, 53°; mean temperature, 62.1°. Partial shade readings the average. The last ten days have been very showery, with occasional high winds.—R. I.

— **SEAKALE AT OAKLEY HALL.**—"South Hants" has been in a little too much haste to make merry at my expense. In the remarks which he quotes in relation to the above I was not assuming surprise that Seakale came good from cuttings. Of course I should exhibit no such ignorance of so very simple a subject. If the context is read it will be seen that I had remarked on the peculiarly ungenerous nature of the soil, which would not grow Raspberries or Black Currants, and added, "curiously enough Seakale from cuttings is first-class." That was a natural corollary. I was surprised to find a root of this nature, which always seems to do best in deep rich soils, to be in such first-class form as Mr. Weaver had it in his garden at Oakley Hall.—A. D.

— **LOBELIA MILLERI.**—This Lobelia is occasionally seen labelled as *L. speciosa*, but its strictly botanical name is *L. syphilitica hybrida*; notwithstanding this plurality of names the one heading this note is no doubt the one under which it is most generally known. *L. Milleri* is supposed to be a hybrid between *L. syphilitica* and either *L. fulgens* or *cardinalis*. The leaves are acuminate, sessile, serrated, and light green. The stems grow 2 to 3 feet high, carrying spikes of large flowers very much like those of *cardinalis* in shape, but of a beautiful rich purple colour; the spikes elongate and continue to flower until frost comes. To produce fine spikes the plants should be placed in a somewhat sheltered position and in good soil; a deep corner in a rockery will suit them admirably. It is one of the very finest of the late flowering hardy herbaceous plants.—C. K.

— **APPLES AT CHISWICK.**—The Apple trees in the gardens of the Royal Horticultural Society at Chiswick were a pleasant and instructive sight on the occasion of a recent visit. Many varieties were loaded with fruit. New Hawthornden was weighed down with it, and the branches have had to be supported with stout props. Lane's Prince Albert was carrying an excellent crop, and Dutch Mignonne was roped with fruit. Others that were heavily laden were Calville St. Sauveur, Golden Noble, Stirling Castle, Gloria Mundi, Barchard's Seedling, Cellini, Cox's Pomona, and Baumann's Red Winter Reinette. Frogmore Prolific, as represented by small bushes on the Paradise stock, was bearing a heavy crop of its large handsome fruits, and the little trees were a truly striking sight. That it would prove a profitable Apple when grown under similar conditions to those at Chiswick is unquestioned, but I know of an instance where it has proved a complete failure in Kent.—P.

— **EARLIER OPENING OF KEW GARDENS.**—Mr. Shaw-Lefevre has received the following communication, bearing upon the re-opening of Kew Gardens, from Mr. Francis Geo. Heath:—"A consideration of your well-known desire to give facilities for the public enjoyment of open spaces, of your admirable service to the Commons Preservation Society and kindred institutions, and of your labours for the rescue of Epping Forest and Burnham Beeches from the hands of the spoilers—labours which I have myself had the honour and pleasure of joining in—tempts me to take advantage of your appointment to the Cabinet post of First Commissioner of Her Majesty's Works and Public Buildings by calling your attention to the great desirability of a somewhat earlier opening of the splendid Botanical Gardens which, amongst many other important open spaces, now come under your supreme control. I am fully aware of the important and weighty reasons which can be urged against a too wide relaxation of the present rules as to the opening of Kew Gardens, and I do not desire to ask for any urgent consideration of the matter. But knowing how strong is the feeling on the part of the public on the subject that at least some little compromise should be made in the direction of an earlier opening of these beautiful and well-managed grounds—a feeling not only shared by the people of Kew

and Richmond, but by a much larger outside public—it has occurred to me that you would probably be willing to allow the subject to be discussed with you by a deputation. Possibly some time during the autumn, when it would be quite convenient to yourself, you would kindly permit such an interview as I venture to suggest." Mr. Shaw-Lefevre replied in the following terms:—"One line to thank you for your kind letter. I shall be very glad to see you here later in the autumn on the subject of the opening of Kew Gardens. In November next I shall be continually at work here, and any day will then suit me."

— **BLUE-PODDED BEANS.**—In a particular quarter very much has been made of the exhibition of a blue-podded Bean recently at the Earl's Court Show. Any visitor to Chiswick Gardens may see several varieties of this coloured Bean in fruit, and Mr. Barron will tell them that they are not novelties. The colour naturally detracts appreciably from their edible uses. They have also no appreciable merit. Really they belong to the Butter or Skinless types, the best of which by a long way are the Green Hungarian and the French Mont d'Or (golden) varieties. Those who would like a really pretty ornamental Bean should grow the Red Striped; the pods are sulphur coloured, profusely streaked with red. Were this form, the golden Mont d'Or, and the violet-podded varieties, grown mixed for ornamental purposes, especially to cover bowers or arches, they would be found very pleasing, as all the pods are so distinctively marked or coloured.—A. D.

— **PRESTON AND FULWOOD HORTICULTURAL SOCIETY.**—The last monthly meeting of this Society proved to be a pleasant and instructive one. There were exhibits by Mr. Terry, gardener to H. Calvert Esq.; Mr. Rigby, gardener to J. Smith, Esq.; Mr. H. Winwood, Mr. J. Wilding, Mr. Jas. Ashworth, Mr. W. Morris, Mr. Frisby, gardener to Miss Farington; Mr. W. Troughton, and Mr. S. H. Stott. The latter contributed some splendid Roses, which lent emphasis to the admirable paper on Rose growing which he subsequently read. Mr. Atherton's announcement that the Mayor had consented to become President of the Society in succession to Mr. Hanbury, M.P., was received with great satisfaction. It has been decided that the spring Show shall be held on March 16th and 17th. Approval was expressed of Mr. Payne's suggestion that prizes should be awarded at the end of the season for exhibitors gaining the largest number of points for skill and perfection in culture.

— **NEW VIOLAS.**—Messrs. Dobbie & Co. send us a box of beautiful Violas, comprising Princess Beatrice, Ravenswood, Rosine, Duchess of Fife, Sunrise, Wm. Niel, York and Lancaster, Rothel, Columbine, and Violetta, also four new varieties to be sent out in 1893. Edina is a very handsome flower, rich deep velvety purple with lavender upper petals, somewhat recalling Countess of Kintore, but perfectly distinct. If of good habit and a free bloomer it will take a high place. Prince of Orange is a bright orange yellow, with rayed centre. Peter Barr has a yellow centre, banded nearly half the breadth of the petals with purplish rose, and having paler upper petals. Rob Roy is a round, smooth flower, lower petals bright yellow, upper brownish purplish, margined with clear yellow. Of the older varieties sent we consider Violetta the pick. It is one of the miniature Violas, is of delicate and beautiful appearance, and powerfully scented. There is a great future before this and the others of its class.

— **MANSFIELD HORTICULTURAL SOCIETY.**—The annual meeting of the members of this Society was held at the Mechanics' Institute, Councillor Sanders presiding. Mr. W. Godfrey, the Secretary, presented a financial statement, which was adopted, showing a deficit on the year's working of £16 18s. 7d., and there was a balance in hand at the bank of £12 13s. 6d. Mr. W. F. Webb, J.P., Newstead Abbey, was re-elected President, and the Vice-Presidents were also re-appointed, with the addition to their number of Mr. I. H. Wallis. Messrs. H. Oakes and H. Rawson were re-elected auditors, and all the old members of the Committee were chosen by ballot to serve again next quarter, with the exception of Mr. H. Smith, who retired, and whose place was taken by Mr. W. N. Sarll. Ald. D. J. Patterson was re-appointed Hon. Treasurer, Mr. W. Godfrey Secretary and collector, and Mr. J. Newton Hon. Secretary for the monthly shows. These gentlemen were heartily thanked for their past services. The amended rules presented by the Committee were considered, and, after considerable discussion, adopted. The area covered by the annual Show will now be extended to a radius of ten miles. It was decided to hold the annual supper at the end of the present month. After the business of the meeting was concluded, a Show of Vegetable Marrows, Carnations, and Picotees was held. The Judges were Messrs. H. Rawson, G. B. Andrews, and G. Edwards, their awards being as

follows:—Vegetable Marrows—First, Mr. W. Haynes. Second, Mr. J. Caunt. Third, Mr. S. Buttery. Fourth, Mr. J. Slaney. Carnations or Picotees—First, Mr. H. Leeson. Second, Mr. W. Brindley. Third, Mr. R. Boole. Fourth, Mr. J. Taylor.

— **EUPHARIS AMAZONICA.**—I have sent to your notice a spike of the above, which you will see has nine flowers and buds upon it. I do not recollect ever having seen one with so many flowers before. You will also observe that one of the flowers is a double one—a fusion of two into one. A few years ago I sent you a similar example, but I do not think that there were so many flowers upon the spike. It would appear in this case that some excess of vigour is the cause of the monstrous flower as in the spike, otherwise there is nearly double the usual number of flowers. Possibly this incident may be worth recording.—ROBERT MACKELLAR, *Abney Gardens, Chesham*. [A beautiful head of bloom, and the foliage indicates robust health.]

— **SCOLE FLOWER SHOW.**—The annual Show of vegetables, fruit, and flowers for the parishes of Scole, Frenze, Thorpe Parva, and Thelveton, took place at Scole House. The exhibits were shown in two spacious marquees, and the quality of the exhibits was good. In the open classes, the Rev. G. Farrow, Rickingham, and Mr. J. P. Frere, Roydon Hall, were the principal winners. In the cottagers' exhibits the Judges must have had a severe task in making their awards. Mr. Rose, besides taking thirteen prizes, also gained third prize in the open competition for the best basket of vegetables. The lateness of the season proved an advantage, all classes being well represented, while fruit was beyond all that could be expected. Flowers were likewise a special feature, some of the cottage exhibitors putting several noted growers in the shade. Mr. A. Kerridge, of Palgrave, showed a splendid lot of pot plants; while Mr. William Jackson, of Scole, was awarded an extra prize for three Swedes and three Mangolds, also not for competition. A band was in attendance, and the arrangements were under the supervision of a strong Committee. The duties of Secretary were efficiently carried out by Mr. R. W. Clarke.

— **TELEKIA SPECIOSA.**—This plant under the above and another of its many names (*Bupthalmum*) has been in your last two issues awarded much higher praise than in my opinion it can fairly lay claim to, as it is an exceedingly coarse growing plant, only suited to the wild or weed garden, or to the banks of a pond or piece of ornamental water in a pleasure ground surrounded by tall trees, where a bit of colour is wanted. When once carefully planted it can henceforth take care of itself. It is well figured on plate 3466 of volume lxiii. of the "Botanical Magazine" for 1836; and is also known under the synonyms of *Molpadia suaveolens*, *Inula caucasica*, and *I. macrophylla*. On the pond bank it would form a suitable companion to the handsome foliaged *Gunnera scabra* (which, however, requires a covering of leaves or bracken to protect its crown from severe winter frosts), or to *Saxifraga peltata*, which is only seen in its full beauty when it has its toes in the water, and of which the autumnal tints when lying well to the sun are often quite gorgeous. For a much brighter and broader rayed flower, of much less coarse habit of growth, and eminently suited for the choicest herbaceous border, I would recommend all lovers of handsome hardy flowers who do not already possess it to get *Inula glandulosa*, figured on plate 1907 of volume xlv. of the "Botanical Magazine."—BOSCOBEL.

— **A GOOD FLY AND WASP TRAP.**—At this time of the year, when Peaches, Plums, and Pears on open walls are ripening, the large blue flies and butterflies, particularly red admirals, are exceedingly troublesome. It is surprising what a quantity of fruit the former will spoil in a short time if means are not taken to prevent them. Some persons suspend bottles half full of beer sweetened with sugar among the branches, and in some instances they answer fairly well, but the most efficacious trap that I know of is one made of two ordinary hand-lights of the same size, closely glazed, placed close to the tree most affected. On the top of four half-bricks, one at each corner, place one light, cut a small hole just large enough to admit of a wasp passing through in the glass at the apex of the light. Over this light place another, packing the sides on which it rests with moss, in the case of its not fitting tightly, to prevent the escape of any flies. On the ground underneath the light lay some partly eaten fruit, which will entice the enemy, some being induced to ascend through the hole in the bottom light into that at the top, from which they never appear to be able to find their way. More will quickly follow, and it is surprising what a number of flies, wasps, and butterflies are caught in a few days; in fact they apparently prefer the company of their kin to the fruit on the trees.—E. M.



SOPHRO-CATTLEYA VEITCHII.

AN interesting and brilliant trigeneric hybrid was placed before the Orchid Committee of the Royal Horticultural Society on September 6th by Messrs. James Veitch & Sons, and was awarded a first-class certificate. It is the result of a cross between a variety of *Lælia elegans* (*Lælio-Cattleya*) and *Sophranitis grandiflora*. The plant was only about 4 inches high. The flowers are of a beautiful rosy carmine hue, the lip deeper, inclining to magenta, and the throat tinged with yellow. The woodcut (fig. 34, see page 245) accurately portrays the form of the flower. This hybrid is remarkably attractive and naturally evoked considerable interest.

CATTLEYA OWENIANA.

RICH as our store of imposing Cattleyas now is the time has not come, and is probably far distant, for any meritorious novelty to lack appreciation. All are welcomed with almost as much interest as though no other good member of the genus were possessed. *C. Rex*, *C. Alexandræ*, and *C. Victoria Regina* have, each in its turn, passed before the search-light of expert criticism and received judgment. They are followed by another very fine and distinct form, which made its bow to the public on September the 6th, when it was submitted to the Orchid Committee of the Royal Horticultural Society by Messrs. Sander & Co., and received a first-class certificate. The new comer is named *Oweniana*, and is of exceptional beauty. The flowers are of great size, and are very richly marked. The lip is very long, broad, and somewhat flattened at the apex, which is very rich velvety crimson. It narrows somewhat towards the throat, and the basal portion, together with the side lobes, which close without folding, are deeply veined with gold. This combination is unquestionably a very striking one, and there can be no hesitation in classing *Oweniana* as one of the most beautiful Cattleyas yet seen.

The mystery in which dealers consider it necessary, for trade purposes, to enshroud their novelties precludes the possibility of acquiring any definite information about the plant, and we are left with an abundant crop of conjectures to quench our thirst for knowledge. It is hinted more or less vaguely that it may be a natural hybrid. Exactly, it may be. Then it is further suggested that *C. gigas* and *C. aurea* may have had something to do with its production. This may be true also. There is much similarity to *C. aurea* about it, and there is a *C. gigas* habit of growth. Specialists must draw their own conclusions from an observation of the points of the novelty, and a comparison with those of other known species. We give an engraving (fig. 33) of the new *Cattleya* for the benefit of those who missed seeing it at the Drill Hall.

ODONTOGLOSSUM HARRYANUM.

THIS very fine and distinct species is one of the most welcome of the comparatively recent additions to a genus already well represented in our glass houses, and runs *O. grande* hard for the first place among the late summer and early autumn-flowering *Odontoglossums*. The pseudo-bulbs are more or less oblong, deeply compressed, 3 inches long, sometimes longer. The oblong, obtuse leaves are of good substance, reminding one of *O. grande*, but longer. The scape is 14 to 16 inches long, stout, almost erect, many flowered. The flowers are 3 to 3½ inches across; the sepals oblong, acute, reflexed at their apex in some examples, while others have a decided tendency to curve inwards, basal half traversed the remaining length with closely set broad lines of mauve-purple on a white ground; central area a fine brown, tip dull yellow. The lip is oblong, more or less oval, three-lobed, side lobes turning upwards; they have the same colour and markings as the lower half of the sepals, and are sometimes of a lighter tint; the anterior lobe sub-cordate, acute, white or pale yellow; the crest is fine yellow, fimbriate; column pale yellow, merging to white, winged.

Capital examples of this species have been in fine flower in the collection of John F. Hall, Esq., Sharcombe, Wells, Somerset, for some time past, and are still fresh.—W. R. W.

ANGRÆCUMS.

ALTHOUGH some genera of Orchids produce more showy flowers and more glowing colours than the *Angræcums* do, yet there are hardly any which attract so much attention from the general public when they have the opportunity of seeing them. The purity of the white in most species, the peculiar long tail or spur dependent

from each flower, and the delicate fragrance emitted, all tend to make *Angræcums* favourites with horticulturists and lovers of flowers. The size of the plants varies considerably, from *A. eburneum*, 3 to 4 feet high, with long stiff leaves, to *A. falcatum* 1 to 2 inches high, and from the large prominent flowers of *A. sesquipedale* to the tiny ones of the little known *A. distichum*.

Being natives of Madagascar, South Africa, and the Gold Coast, it will be readily seen that to insure good cultivation a high and moist temperature is required. The East Indian house suits them well. The stronger species may be grown in pots and the smaller ones in baskets, using only sphagnum and crocks. They should never be allowed to get dry.

The following species are about the best in the genus:—*A. articulatum* has thick, light green leaves, about 4 inches long. The plants are seldom more than 6 to 8 inches high. The pendulous racemes are about 15 inches long, with two rows of pure white flowers, each 1 inch across; spurs 3 inches long. It was introduced from Madagascar by the Rev. W. Ellis.

A. caudatum grows about a foot high; the leaves are about the same length, broad, close together, and divided at their apices. Racemes four to six flowered, 18 inches long; the flowers are 2 to 3 inches across. Sepals and petals narrow, green; lip white and pointed; the tail often measures 9 inches in length, and is pale green. Introduced from Sierra Leone by Messrs. Loddiges in 1834.

A. citratum is a dwarf species, very interesting and pretty. The leaves are more ovate than most species, about 4 inches long by 1 broad. The racemes are 12 to 18 inches long, pendulous and crowded with small straw coloured flowers; the spur is short, thickened and transparent at the end. Native of Madagascar.

A. eburneum is a strong growing species, with leaves 2 feet in length. The racemes are stiff, erect and often 3 feet high, bearing about a dozen flowers each 3 inches across; sepals and petals green, the lip ivory white, the spur is about 3 inches long. It is supposed to have first flowered in Europe at the Royal Horticultural Society's Garden at Chiswick in 1832, being introduced from Madagascar.

A. fastuosum is a beautiful little plant with dark green leaves about 2 inches long; the flowers are pure white and deliciously fragrant, each about 1½ inch across. It was discovered by M. Leon Humblot, and introduced by Messrs. Sander & Co. in 1881.

A. Kotschyi prefers to grow on blocks, and produces very long roots freely. The leaves vary in size, and are dark green. The quite pendulous racemes produce several pure white flowers, each about an inch across; the spur is particularly noticeable, being about 8 inches long, twisted and reddish. Native of Zanzibar. Discovered in 1838.

A. Leonis was described and figured in the *Journal* of June 2nd.

A. Scottianum was introduced from the Comoro Islands in 1878, and first flowered in the collection of Mr. Scott of Walthamstow, after whom it was named. The stems are slender, terete, and dark green; leaves 6 inches long, recurved, grooved on the upper surface. The flowers are usually solitary, though sometimes produced in pairs; the sepals are greenish, petals white, lip large and white, spur pale yellow green, 5 inches long.

A. sesquipedale was introduced from Madagascar by the Rev. W. Ellis in 1855. The leaves are close set and thick, dark green, and divided at the apex. The flowers are about a foot across, ivory white, with a tail about 12 inches long. They are produced during the winter months, and are exceedingly attractive.

A. Sanderianum is a charming plant, flowering regularly every spring. The drooping racemes are 1 foot long, and bear many of the pure white flowers each 1½ inch across; the spur is about 3 inches long. Native of Madagascar.—C. K.

JOTTINGS ABOUT LONDON PARKS.

BATTERSEA PARK.

THIS is recognised as being the most picturesque park within the metropolitan area, and it is here one naturally expects to see good flower gardening. There are sufficient contrasts and harmonies of colour and form to suit everyone. Here we find carpet beds—prim, formal, and fantastic in design; there a bed rugged in outline. In addition to these features there are the sheltered nooks filled with sub-tropical plants, the beautiful borders of mixed flowers, the bold masses of shrubs, winding walks, and a splendid lake, in which Water Lilies are now flowering profusely.

It is, however, the summer bedding that interests us most at present. Although, on the whole, a fair summer, this has not been a particularly favourable season for tender bedding plants. In some places the plants have done well, whilst in others the display is below the average. This is noticeable in Battersea Park. Two of the carpet beds in the sub-tropical garden are exceedingly good this year, the *Alternantheras* being

particularly bright. Perhaps nowhere could better-kept beds be seen, the plants being apparently nipped and so restricted in growth as to be absolutely faultless in outline. But are such beds desirable? That they are wonders in their way is readily admitted, and they reflect great credit on the designer, but one cannot help regretting that a more natural system of flower gardening is not generally adopted in such a beautiful park. The longer we look at these combinations of colour and stunted plants, the greater the relief when we turn to beds less formal in outline. Of the latter there are happily a great variety.

In the sub-tropical garden there are many beds that are remarkably striking and pleasing in effect. One planted with bold specimens of *Gunnera scabra* and *Polymnia grandis*, and edged with variegated *Pelargoniums*, and *Sempervivums*, is particularly effective. In a suitable position an imitation of this could be made with advantage. A bed of single Tuberous *Begonias*, with a ring of yellow-leaved *Pelargoniums*,

Delphiniums, *Dahlias*, *Gladioli*, *Musas*, *Eucalyptus globosus*, and other hardy and half-hardy plants. This is the kind of bedding that is required in such a picturesque park. Bold masses of *Cannas* near by are likewise conspicuous, and the same may be said of a bank of *Fuchsias*, one mass of bloom. Specimens of *Araucaria excelsa* are used with good effect in one or two beds, and some huge plants of *Brugmansia Knighti* catch the eye, but these have not done well this year. There are also numerous beds filled with *Pelargoniums*, *Lobelia*, *Coleuses* and other ordinary bedding plants in the customary manner, and which for the most part are now past their best.

Although the principal feature, the sub-tropical garden does not constitute the whole of the bedding in Battersea Park. There are, besides the beds mentioned, borders and nooks filled with a variety of plants, all interesting and effective. From a natural point of view, perhaps one of the most attractive corners is that leading from the



FIG. 33.—CATTLEYA OWENIANA.

and edged with blue *Lobelia* and *Mesembryanthemum*, is also noticeable; whilst in the background a bold mass of dark-leaved *Cannas* shows up conspicuously. Among the latter some rich scarlet *Gladioli* spikes are most effective. Those who favour a quiet arrangement would be interested in a bed planted with *Vitis heterophylla variegata*, above which rise spikes of *Lobelia Queen Victoria*, the dark foliage and scarlet flowers making a pleasing contrast to the variegated leaves of the *Vitis*. This bed is edged with variegated *Pelargoniums*, pink *Lobelia*, and *Mesembryanthemum cordifolium variegatum*. Near to this, but in the background, a row of white *Phlox* shows up conspicuously against a number of dark-leaved *Castor Oil* plants.

Rather an uncommon bed is that of Tuberous *Begonias*, amongst which green and red-leaved *Dracenas*, and *Dieffenbachias* are planted. The latter, however, do not seem particularly happy in their quarters, possibly owing to the recent cold winds. Still, the bed is novel in its arrangement, and was doubtless attractive earlier in the season. A large bed planted with *Wigandia caracasana* associated with a dark *Heliotrope* and edged with bands of *Iresine*, variegated *Pelargoniums*, blue *Lobelia*, and *Echeverias*, also attracts attention, not only for its appearance but fragrance, the *Heliotrope* being most delicious. I noted with pleasure, too, a large mixed bed, amongst which were

sub-tropical garden and near the lake. Here we find banks, irregular in shape, planted with various hardy and other plants. Amongst these are *Liliums* of sorts, *Lobelia Queen Victoria*, *Salvia patens*, and large clumps of *Thalictrum adiantifolium*, the whole making a charming display. The groundwork in the front, or rather at the base of the mounds, is planted with *Pilea muscosa* and *Sedums* of different kinds. The only drawback, to my way of thinking, to this arrangement is the manner in which the *Liliums* are disposed. It would have been better had they been planted in bolder masses. The borders, of which there are many in different parts of the park, are just now gay with autumn flowers, these being really more showy than the beds. Masses of *Helianthus*, *Phloxes*, *Gladioli*, and various annuals, such as *Asters* and *Stocks*, are exceedingly bright, showing up well against the background of shrubs. Much more could be written anent the floral arrangements there, but it is sufficient to say that the characteristics of this charming park are fully maintained this year, and a visit may with advantage be paid before frosts destroy the effect.

VICTORIA PARK.

This park has long been noted for good flower gardening. Although situated in a by no means salubrious neighbourhood, the beds are

usually of a bright and interesting character, and this year they are no exception to the rule.

In this, as in the other parks noted, a change in the style of bedding has taken place during the past few years, but the carpet system here still retains a good hold. Much may be said for as well as against carpet bedding, for although not now generally appreciated it must be admitted that when properly done it affords evidence, if nothing else, of the high development of a gardener's skill. In Victoria Park the carpets are really good, and perhaps they never looked better than at present. When the flowering plants are covered with bright bloom the colours of the foliage of those used in carpet bedding pale; but as soon as the former begin to fade, the latter appear to advantage. Such was the state of things in this park during the latter part of last week. The majority of the Pelargoniums and other ordinary bedding plants are past their best now, notwithstanding the attempt that is being made to prolong the display by the removal of faded blooms. But the carpet beds are really worth a visit. The designs are good—not too fantastic, and the colours are charmingly arranged. The Alternantheras are particularly bright, and the white foliage of Cineraria maritima shows to advantage in many beds.

Near the entrance from the Victoria Park Road there is a grand circular bed of Pelargoniums, variegated and zonal, planted in triangles. In the front of these there are triangles of Golden Treasure Fuchsia, the centres being filled with Coleus Verschaffelti. The whole arrangement is edged with blue Lobelia and Echeverias. Pelargoniums have evidently been very fine, but Tuberous Begonias do not appear to have done well. Mixed beds are numerous, and among them hardy plants are noticeable, several fine clumps of Anemone japonica alba showing up well. This grand autumn blooming plant should be more extensively used for bedding purposes.

Another conspicuous feature in this park are the beds of succulents. One arrangement of this kind is particularly effective. It is a large circular bed in the centre of which is a fine Agave, similar plants of a less size being set at equal distances over the bed. Between these are succulents of various kinds, the groundwork being Mesembryanthemum cordifolium variegatum; a fine edging of Echeverias completes the display. Several banks near the ornamental lake are similarly planted; the ground in the front portion is, however, occupied by Antennaria tomentosa. Sub-tropical plants are good, and several arrangements of these near bright carpet beds form a splendid contrast.

The borders of hardy flowers deserve a word, though these are not so numerous as they might be. Still, the few that exist are now gay with autumn flowers, comprising masses of perennial Sunflowers, Chrysanthemums, and annuals of kinds. On the whole the display in this Park is quite up to the usual standard, and fully maintains the reputation it has so long held for effective bedding.—C. C.

REVIEW OF BOOK.

Fruit Culture. By J. CHEAL, F.R.H.S. London: G. Bell & Sons, York Street, Covent Garden.

WE take from our pile of books, some of which have waited long for the attention they merit, Mr. Cheal's handy and useful volume on fruit culture, and a reference to it at the present time will not be inopportune. It is included in Messrs. Bell & Sons' agricultural series, and fittingly has a place amongst them, for fruit-growing must be more distinctly recognised in the future than it has been in the past as deserving the attention of cultivators of land, whether on a large or comparatively small scale. As nothing can so well indicate the character of a book as a few citations from it we will let the work speak for itself. British neglect and American enterprise, as well as the prospective supply and demand for fruit, are treated as follows:—

Our own cultivators, or rather possessors of orchards which have to a great extent been uncultivated, are in the meantime crying out that they cannot sell the Apples that they already grow; but the reason of this is not far to seek. The Apples sent to market from these orchards will be found in most cases to be such a mixture that the housewife can find amongst them any sort except the ones she needs, and they appear to have had in gathering the treatment by the farmer that Talpa recommended him to give to his clods, in the old book "The Chronicles of a Clay Farm:—

"Mingle, mingle, mingle, all ye who mingle may,
Blue spirits and white, black spirits and grey."

This treatment is all right for the clods, but all wrong for the Apples.

The American orchardists have seen their opportunity, and taken it. They have noted the requirements of our markets and have set themselves to work to meet those requirements, and they have by careful study and scientific practice been able to produce and place upon our markets thousands and tens of thousands of bushels of Apples of good quality, especially handsome in appearance, regular in size, and uniform in quality. These find a ready sale, not only in large cities but also in our provincial towns, and even in our country villages, at the very doors of those who could grow just as good themselves, and who are perhaps complaining of bad times, and the hopelessness of making corn growing pay.

But the responsibility for this state of things is by no means confined to the farmer, the lethargy of the landowners with respect to this matter

is unaccountable. They have been standing still with their tenants, and supplying themselves with fruit from across the water instead of from their own lands.

Apples that can be produced of such handsome appearance and placed on our markets in such fine condition are sure to sell, and people will continue to buy until we can supply them with a sufficient quantity of better fruit at home. And that the quality of our fruit, of the best varieties, when grown with care and scientific skill, is superior to that from over the water is abundantly proved by the much higher price invariably realised for such fruit. Highly coloured skins do not always indicate the highest quality inside, and most of the American fruits are dry and woolly compared with the juicy lusciousness of our own prime English fruit. The moral obviously is, that those who grow the fruit must produce the highest quality. The fruit must be *cultivated*, and not allowed simply to *grow*.

That a movement has set in in this direction is very evident, as shown by the agricultural returns of fruit planted in this country, which exhibit an increase during the last two years to the extent of 12,000 acres, as against a decrease in the previous year of 500 acres; so that pessimists are beginning to say, "Ah, yes! now it will be overdone;" but there is no prospect or possibility of this for many years to come. With the increase of supplies of good fruit the consumption will extend enormously, and the supply will create further demand. As a proof of this take the case of Tomatoes. The consumption of these twenty years ago was confined to a very limited number, but now that people have become educated to their use and have discovered their wholesome qualities, they are in daily demand by the million, and their growth has probably increased a hundredfold during that period. An interesting calculation in the "Country Gentlemen," an American organ, as to the quantity of fruit that might and ought to be consumed by the people is given as follows:—

"Each member of every family should have on an average 1 lb. of fruit daily—some will eat more some less—either fresh or cooked. How many pounds will that be in each day? There are 40,000,000 persons in the whole country old enough and well enough to eat fruit, which would be 40,000,000 lbs. or nearly 20,000 tons daily consumption. Taking the year through it would amount to 7,000,000 tons. The daily consumption of fruit would prevent many persons from eating or imbibing what is much worse, and at the same time it would contribute greatly to health and prevent disease. We want more enterprise, skill, calculation, and management to raise and properly distribute these 7,000,000 tons."

Then the author goes on to utter words of caution and of warning against too great expectations from rushing hastily into fruit-growing. He says:—

Those who enter upon fruit culture must not, however, expect to make fortunes in a year. Much has been said and written which is wide of the truth as to profits—so wide indeed that it does much harm instead of good. Exaggeration and over-statement only weaken the argument and raise suspicion, and ultimately lead to disappointment, in those who listen to and act upon it. But there is abundant proof that those who plant carefully, and cultivate with common sense, to say nothing of scientific skill, reap a fair return for their outlay and labour. This is proved, not merely by large growers for market but by a considerable number of small cultivators. . . . But many points will have to be thought out and determined before even commencing. There will be the question of whether you have a retail outlet for your fruit, or whether it must be sent to a wholesale market, whether you would be likely to get a better return for early or late varieties, and whether you have a jam factory or other means of disposing of the fruit. All these considerations would have a bearing upon the varieties to plant, and upon the general arrangement. These points being determined by the intending grower he should then select his position accordingly, or if this is already fixed, he will determine his action from his surroundings. Then let him steadily pursue his purpose and not be daunted or turned from it by the first or second failure; but having made sure that he is on the right course, go steadily ahead.

Discussing the system of land tenure, which has proved the reverse of encouraging to the planting of fruit trees, Mr. Cheal writes:—

The most satisfactory arrangement seems to be for the landlord to find the trees and the tenant to find the labour, and prepare the ground for planting. It is, of course, to their mutual interest to select good trees of the right varieties, and to plant and cultivate them properly. It is also especially to the interest of the tenant to maintain and cultivate them well, in order to realise the best return from them in the shortest possible time, and he will be naturally anxious to continue his tenancy as long as possible in order to reap the full benefit of his first outlay; and the landlord is thus likely to secure a good thriving tenant, and to see his property considerably increasing in value. There is then at the expiration of the tenancy no vexed question respecting valuation and compensation.

An instance came under my notice a short time since of a landlord who some years ago expended about £20 an acre in planting Apples for a tenant, upon land which previously let for £1 per acre. The land has now for many years been let at £4 per acre, whilst the land adjoining is still let for £1 per acre. Therefore the £20 outlay in planting fruit has yielded to the landlord £3 per annum, which is not a bad interest on the outlay, to say nothing of the largely increased

capital value. I think, if carefully looked at from a landlord's point of view, it will be seen that it is not only the duty but the interest of landlords to give every facility that they legitimately can to good tenants as regards this matter of fruit culture.

We take one more extract, dealing with what we term the accelerating of profits in fruit culture. No doubt our author likes these to be as quickly produced as possible, and as he is not a selfish man, is imbued with the same desire for others, hence remarks:

One great drawback to fruit culture in the past has been the time that must necessarily elapse after planting before realising a return. According to the old methods it was useless to expect anything like a profitable return from fruit trees for at least ten to twelve years after planting. Modern science and practice have, however, done much to alter this. Necessity in this case, as in many others, has stimulated invention, and by the use of dwarfing stocks and other similar means almost a revolution in fruit culture has been accomplished. Many of our Apples for which we had to wait years for a crop will, by working on the Paradise stock, now yield fruit the second season after grafting; and what the Paradise has done for the Apple the Quince has done for the Pear.

What was said of the Pear, according to the old lines is now changed into the following:—

"That 'Those who plant Pears
Grow fruit for their heirs,'
Is a maxim our grandfathers knew.
But folks have learned since,
If you graft on the Quince,
The fruit will develop for you."

We hope that many readers will realise the truth of the prophetic utterance, as they may if they discriminate, for there are a few Pears that are the least profitable in the end on Quince stocks. One instance is afforded in the Pear garden of Mr. Thomas of Sittingbourne. His Pitmaston Duchess Pears on free stocks are the most profitable of all his varieties, and we are well within the bounds of strict accuracy in stating that any one of his trees on the Pear stock has given a greater value of fruit during the past fifteen or twenty years than have three on the Quince, and we could cite other examples. There is plenty of sound information in the book to enable "fruit to develop" for the growers if they follow intelligently the methods advised in land preparation, planting, pruning, and the selection of appropriate varieties for the positions and object in view. The work is well printed, usefully illustrated, and is worthy of being associated with other handbooks on the subject—hardy fruit culture—on which it treats.

ALLERTON TOWER.

THE residence of Sir Thomas Earle, Bart., is a fine imposing mansion and is about ten minutes walk from Allerton Station on the L. and N.W. Railway. It is situated in charmingly wooded grounds, from which at nearly every turn beautiful and varied views present themselves; whilst from the tower and south side of the terrace the river Mersey can be seen for a long distance, with its numerous array of ships sailing to and fro from all parts of the world. The house is approached by a winding drive, along which are some fine old trees, and, what are so seldom found in this neighbourhood, two large Mulberry trees, which are every year laden with fruit. A short turn through a walk bordered on each side by Rhododendrons, and we are on the terrace. Here we get a grand view of the pleasure grounds, the features of which are the perfectly kept lawns so free from all kinds of noxious weeds. The walks are quite straight, and have been evidently made to match the architecture of the house. The lawns stretch away in the distance, and here and there fine old trees are to be noticed, together with banks of shrubs.

The flower garden, although small, is very tastefully bedded, and it is just as well that it is no larger, or much of the delightful effect of the terrace view would be entirely spoiled. On the left of the terrace is a small conservatory, leading into a long corridor. The outside of the corridor is festooned with creepers, but what impressed me most was a fine old Vine, running the whole length immediately underneath the roof. This not only proves ornamental when in active growth, but as autumn turns the green leaves into purple and crimson and gold, its usefulness for decorative purposes cannot be over-estimated. Much more might be done with outside Vines in respect to the foliage, thereby saving the partial destruction of many Vines under glass, which in some cases have to have many of the leaves stripped for use in garnishing dishes of fruit throughout the autumn and winter.

Passing from the terrace, down a flight of stone steps, we come to a broad gravel walk, on each side of which are planted three fine specimen Irish Yews. A turn through a doorway and we are brought into the quarter where the plant houses, vinceries, and Peach house are situated. The first we enter is a greenhouse filled with a splendid assortment of plants appropriate to such a structure. Particularly attractive were the Fuchsias trained up the roof. The next house is a stove and fernery combined. A grand Allamanda Hendersoni in full bloom occupied a large space on the roof, and good plants of Asparagus plumosus, useful Ferns, and table plants covered the stages. The vinery is in three

divisions. In the early one the heating is not sufficient, and to counteract this Mr. Stoney, the gardener, has the ropes removed and the ventilating sashes nailed down, so that not a breath of air is admitted until April. How well this succeeds is shown by the magnificent bunches of Muscats and Madresfield Court, which have taken high honours at the Liverpool Show over a period of years. The second vinery has four Black Hamburgs, two Muscats, and one Madresfield Court. This again has only a flow and return pipe running through, and those who cling to the impression that Muscats are never satisfactory in a mixed house, and that they want so many degrees of heat more than other Vines, would have it shaken could they see what is done at Allerton. In the centre of this house a chamber is built, which is entered by a small door. Here is done all the Mushroom growing and the forcing of Seakale and Rhubarb. The late house is planted with one Bowood Muscat, three Lady Downe's, and three Alicantes, and the same splendid crops are to be seen. The centre portion of the flooring in this house is always occupied with Camellias in pots, which at the time of my visit were so thickly set with buds as to necessitate the removal of some hundreds of them. Before closing reference to the Vines I may also add that the magnificent collections of vegetables exhibited with such conspicuous success year after year at Liverpool are grown on the outside Vine borders, and apparently with not the slightest detriment to the Vines.

Passing along a small walk, bordered on each side by herbaceous plants, we come to the fine Peach house, which is 300 feet long and in three divisions. The first house has the trees on the back wall only, the front being filled with miscellaneous greenhouse plants. The varieties in this house are Teton de Venus, a fine Peach, of good colour, and with excellent cropping qualities, but one seldom met with, and Grosse Mignonne, Improved Downton, Pineapple, and Lord Napier Nectarines. In the second division on the front trellis is a stately old Royal George Peach. It covers a space 30 feet in length, and the stem 1 foot from the ground is 27 inches in circumference. It never fails to carry a crop of from 250 to 300 fruits, and all of the finest quality. The others on the front are two Bellegarde, carrying superb crops, and Noblesse, which is Sir Thomas Earle's favourite Peach. On the back are two Stirling Castle, Alexander, Dr. Hogg, and Violette Hâtive and Victoria Nectarine. The late house is without fire heat, and consists of the following on the back wall:—Walburton and Late Admirable, Royal George, Barrington, Noblesse, Balgovan, and Victoria Nectarine. A few cordon Pears are planted between of the following varieties, all carrying good crops:—Jargonelle, Williams' Bon Chrétien, Hassle, Pitmaston Duchess, Marie Louise, Brockworth Park, Doyenné du Comice, Duchesse d'Angoulême, and Josephine de Malines. Along the front are Plums planted out. The chief sorts are Coe's Golden Drop, Purple Gage, Green Gage, and Jefferson, all free from insects, and carrying fine crops. I may here mention that with the exception of one or two young trees, none of the other Peaches and Nectarines has been lifted for ten years. A hard surface, a good mulching of decayed manure during the fruiting period, free watering, and training the shoots thinly are the means by which such excellent crops are produced throughout the entire range.

A few old-fashioned forcing pits, used firstly for the forcing of early Potatoes and the propagation of bedding plants, were filled with splendid crops of Lockie's Perfection Cucumber and Masterpiece Melon, and in another was an old Stephanotis, which is never out of flower, and which was a perfect sheet of lovely wax-like flowers. There is also a rosery in the pleasure grounds, which was very gay. In the vegetable department the crops are excellent. There is not a foot of spare ground, and what is more not a weed to be seen. There is also, a short distance from the house, a finely cropped garden of vegetables some 100 yards long by 22 feet wide. Considering the number of hands employed in the gardens it is nothing short of wonderful that the whole of the grounds are kept in such a thorough manner. Mr. Stoney's courtesy has earned him hosts of friends.—R. P. R.

HORTICULTURAL SHOWS.

SHEFFIELD, HALLAMSHIRE, AND WEST RIDING UNITED CHRYSANTHEMUM SOCIETY.

THE second annual summer Show of this Society was held in the Museum, Orchard Street, Sheffield. As compared with some of the district exhibitions held in tents this display of plants, flowers, fruits, and vegetables was small, and lacked some of their interest; but upon the whole it was a creditable display, and serves a useful purpose in drawing attention to the main objects of the Society, which are to cultivate energy and enthusiasm among all classes of Chrysanthemum growers, and endeavour to enlist their support as well as that of the general public for the November Exhibition. This summer Show gives many supporters of the Society, who are not Chrysanthemum growers, an opportunity to compete for small prizes given for other plants and flowers at a time of the year when outdoor flowers and many kinds of vegetables and fruits are fairly plentiful.

The response accorded by the amateur members of the Society was most praiseworthy, especially in the classes devoted to herbaceous Phlox, Gladioli, Dahlias, Stocks, and Asters. These flowers were all numerous and well shown by the amateurs, far exceeding in quality those in the professional classes, where competition, except in those for vegetables, was only weak. The display of plants was very poor, doubtless owing to the soaking wet weather of the first day, and the objections which some had to a two-days show. The frequency of exhibitions at the time

in the various outlying districts served also in deterring many from competing. The chief prizewinners in the professional class were Mr. T. Hanley, who was first with Grapes, Peaches, stove and greenhouse flowers, hand bouquet (a very good example), six buttonholes; Peas and Beans. For six Roses, dissimilar, Mr. T. Allis was first, as he also was with Asters, Tomatoes, and a splendid brace of Cucumbers. Mr. R. Howarth was first with Stocks, Fuchsias, and table plants; Mr. T. Brewer with exotic Ferns, single Dahlias, and an epergne of flowers; and Mr. J. Thompson with Pompon Dahlias. For a British Fern Mr. T. Ball was first, and specially commended for a large plant in a 9-inch pot of a seedling *Athyrium filix-fœmina ramo-cristatum*, raised by himself. The plant was three or four years old, a most vigorous specimen, and considered to be an exceedingly good crested variety.

In the amateurs' section the keenest competition took place in the classes for cut blooms. For six spikes of herbaceous Phlox Mr. W. Willgoose was first against five competitors, as he also was with Asters, beating twelve opponents, all staging blooms of good quality. He was also placed first for a stand of blooms, dissimilar, outdoor grown, for three Pompon Dahlias, and for Beans. Mr. R. Gascoigne was first with three spikes of splendid Gladioli and six Tomatoes. In the class for Stocks there were ten exhibitors, all with excellent single spikes, but the first prize lot staged by Mr. W. Jackson was decidedly superior in size of spike and individual blooms, with erect appearance. Mr. W. Fletcher was second with little less inferior spikes, while Messrs. W. Willgoose and C. Furniss were equal thirds. For six blooms, greenhouse flowers, Mr. G. Walker was first, he also taking the leading place with a choice hand bouquet, tastefully arranged; one plant in bloom, a large Fuchsia; one Gloxinia; and one foliage plant (a splendidly grown *Caladium*). Mr. W. Carlton had a stand of superb Pansies for which he was placed first. In the class for three Show Dahlias eight exhibitors competed very closely, the leading position being obtained by Mr. W. Adams, second Mr. A. Jones, third Mr. R. Smith. For three Roses Mr. C. L. Wright was first. Mr. J. Eadon took first place in the British Fern class with *Osmunda regalis* in a 14-inch pot, and Mr. W. Housley was second with *Polystichum angulare*. In the exotic Fern class Mr. W. H. Hinchcliffe was first with *Pteris serrulata cristata*, a bushy specimen. Other first prizewinners not mentioned were Mr. G. Hancock (brace of Cucumbers), and Mr. H. Broomhead (brace of Celery, splendid, well-blanchied, clean examples). Mr. Broomhead also exhibited, not for competition, two plates of large Gooseberries.

HORLEY.—SEPTEMBER 7TH.

RATHER late in the year was it for the Committee of this south-east Surrey Society to venture upon an outdoor Exhibition, but as so many held earlier had come to grief through bad weather, it was not perhaps so dubious a prospect after all. The afternoon proved damp, something of a Scotch mist falling, but it hardly damped the energies of the local people; whilst the evening from five o'clock was fairly fine, and the attendance was large. The Show was held in a huge tent in a sort of public field, where there was ample room for the sports and other pastimes indulged in, and no effort was spared to render the day one of many attractions, as should be the case in these rural districts. Within the tents there were numerous exhibits of an honorary nature that merit notice. The trade was represented by a capital group of plants sent by Messrs. Peed & Sons, Norwood. This collection included some very fine Cockscombs. This firm also showed a good lot of Dahlias. Messrs. J. Cheal & Sons, Crawley, set up a good collection of Show, Cactus, Pompon, and single Dahlias in their usual attractive style; and Mr. R. Spinks, a local florist, had a large collection of Cactus and Pompon Dahlias.

From private sources came first a beautiful group of plants from Mr. Cottle, gardener to W. Tebb, Esq., Rede Hall, Burstow; a very fine one from Mr. Sanders, gardener to H. White, Esq., Horley, including some good Begonias; and smaller ones from Mr. Ratley, gardener to Captain Charrington, and Mr. A. Woodman, gardener to Colonel Farebrother. Mr. Tickner, gardener to J. Walker, Esq., had the best decorative group in competition—a very neatly arranged one; and for flowering plants had some capital Chrysanthemums with fine blooms, Bouvardias, Gloxinias, with excellent foliage plants and Ferns. Mr. Sutton, gardener to J. H. Donaldson, Esq., was second. Mr. R. Cornford, gardener to J. Whitchurch, Esq., was first with six medium-sized but very richly coloured Coleuses. Mr. Sanders had the best Begonias, really well-flowered plants; and Mr. Cornford the best six Cockscombs. In cut flowers there was a capital competition in the class for eighteen bunches of any varieties, Mr. Coutts, gardener to J. W. Stevenson, Esq., having the best with very neat prettily arranged flowers. Mr. Tickner, who was second, had large bunches of good flowers, but indifferently arranged. Mr. Sutton had the best twenty-four Asters in really good Victorias, and Mr. Sanders the best six bunches of Cactus Dahlias. Other cut flowers were very good.

Of fruit the best pair of bunches of black Grapes, beautifully finished Lady Downe's, came from Mr. Sutton, Mr. Cornford being second with fair Hamburgs. Mr. Sutton was again first with two fair bunches of Muscat of Alexandria in the class for whites, Mr. Batty being second with Buckland Sweetwater. Mr. Cornford had six good dishes of fruits in very fine Raspberries, Morello Cherries, Peaches, Plums and Apples. Mr. Catt, gardener to E. S. Miller, Esq., was second.

Mr. Coutts had the best Tomatoes; moderate sized, but otherwise perfect samples of Perfection. In a class for six vegetables, prizes offered by Messrs. Sutton & Sons, Reading, Mr. W. Greenfield, a local

amateur, was first with excellent Best of All Potatoes, Prizewinner Runner, and Canadian Wonder Beans, Long Surrey Carrots, good Onions, &c. Mr. Sutton was second with good Tomatoes, Carrots, Cucumbers, Excelsior Onions, and rather coarse Cauliflowers. In a similar class for prizes offered by Messrs. Cheal & Sons, Mr. Sutton was a good first, having Satisfaction Potato, Excelsior Onions, Long Surrey Carrots, &c. Mr. Sanders was second with excellent examples. In the Society's class for nine varieties Mr. Greenfield was again first, and Mr. Sanders second. A very good collection of vegetables and fruit was shown by Mr. Ratley. The cottagers' classes brought large and excellent competition. During the evening Mr. Dean, representing the Surrey County Council, addressed a very large gathering on horticulture, dealing specially with the exhibits in the various vegetable classes. W. Cubitt, Esq., M.P., presided, and later presented the prizes to the various successful exhibitors.

DERBY.—SEPTEMBER 7TH AND 8TH.

THE annual Exhibition was held in connection with the Agricultural Society in the grounds adjoining the Cattle Market. Three large tents were well filled with exhibits, and all agreed that the Exhibition was superior to any that has been held in previous years. This change is doubtless largely due to the interest taken in the Show by Mr. Innis and other leading horticulturists in the vicinity of Derby, who have endeavoured to advance it to the front rank of provincial Exhibitions. It is satisfactory to note that their efforts so far have proved successful, and were highly appreciated by the thousands who visited the Agricultural Society's grounds. The horticultural portion was perhaps the chief attraction. The schedule provided no less than 126 classes, which were divided into five sections. The first was open to nurserymen and gentlemen's gardeners, and comprised thirty-five classes. These will be mainly dealt with in the following notes. The remaining classes were devoted to amateurs, children, and ladies. It may be said that the exhibits in nearly every case were highly creditable and most praiseworthy.

Stove and Greenhouse Plants.—These were not numerous, but those staged were good. In the class for twelve plants, ornamental and flowering, arranged for effect, not to include more than two Ferns, Mr. Cypher, Cheltenham, deservedly took the lead, staging splendid examples in his well known style. Mr. Mould, Pewsey, creditably gained the second award. The first collection contained *Latania borbonica*, *Kentia Forsteriana* (good), *Kentia australis*; *Crotons Countess* (good), *angustifolium* and *Sunset* (large, well coloured); *Ericas Austiniana*, *Marnockiana*, *Turnbulli*, and *Uriana superba*, also a good *Statice profusa*. In the corresponding class for gentlemen's gardeners Mr. Finch, Coventry, took the lead with a capital lot of plants, amongst his best being *Cycas circinalis*, *Kentia Forsteriana* and *K. australis*, *Crotons Sunset* and *montefontaineensis*, *Ixora Duffi* (very fine), a well-flowered plant of *I. Williamsi*, *Clerodendron Balfourianum*, *Stephanotis floribunda*, and two good *Ericas*, *Marnockiana* and *Turnbulli*. Mr. Vere, Allestree Hall Gardens, Derby, was a good second; Mr. Gilbert, gardener to Rowland Smith, Esq., Duffield Hall, third; and Mr. A. Webbe, Kelham Hall, Newark, fourth. For the best arranged basket of plants there were only three exhibitors. Mr. J. Ward, gardener to T. H. Oakes, Esq., Riddings House, was first; Mr. Vere, gardener to Sir Wm. Evans, second, with a heavier, rather crowded arrangement; and Mr. Webbe third.

Groups.—Three prizes of £12, £8, and £5 were offered for a group of plants covering a space of 200 superficial feet, to include stove and greenhouse flowering and foliage plants, the points of merit to be the specimens and the arrangement for effect. This class was open, and first included in the schedule in 1886, but discontinued after 1888 until the present year. Although only three competitors staged groups the class is worth retaining in the schedule, as the exhibits added materially to the beauty of the Exhibition and attracted considerable attention. The space devoted to them was wedge-shaped. Mr. Ward was well first with an arrangement that was light, effective, and highly artistic. It consisted of about a dozen little groups, the back one having for a centre a *Kentia*, the two next *Eulalias*, the two next *Cocos Weddelliana*, a centre one *Croton Warreni*, two others the same plant, while the front ones of smaller size were principally Palms. Each group was an attraction in itself, and was lightly filled up with plants of a choice nature, while the spaces between were covered with wood moss. In two or three of the winding spaces between the groups plants of *Nepenthes Mastersiana* were arranged on moss-covered stakes. The group had one fault—too many *Crotons* had been used for centre plants. The second prize was obtained by Mr. A. Webbe, and the third by Mr. Morris, Burton Road, Derby. The second group was a most praiseworthy one, and at a first glance had every appearance of securing the post of honour. The arrangement was very tastefully conceived. A good deal of cork was used in its construction, and out of this the main as well as the plants that formed the separate groups were allowed to rise, all the space between being covered with wood moss. From one side this group had a very handsome appearance. Unfortunately, however, too many plants had been used, and gave to what would have been a splendid group a rather crowded appearance, while sufficient was scarcely left to furnish the front properly.

Ferns.—Two classes only were provided for these—one for six distinct kinds, three collections being staged. Mr. Ward took the lead, followed by Mr. Gilbert and Mr. Vere. For six *Lycopodiums* the same number of exhibitors staged plants. Mr. Vere was first with large well-grown examples, Mr. Gilbert being a good second.

Cut Flowers.—These were not numerous, but those staged were, on

the whole, good. For twelve Roses Mr. Robinson, Green Lane, Derby, took the lead with fairly good blooms. For six blooms Mr. Carrington was successful. For twelve Dahlias Mr. Carrington was first with fresh young flowers. Those staged by Messrs. Henson and Robinson, for the second and third respectively, were larger, but displayed signs of decay at the base. For six blooms Mr. R. Shaw was first. For twelve singles (prizes given by Mr. Walter, Derby) Mr. J. Salisbury won. The competition in this class was good, and four prizes were awarded. For twelve trusses of Zonal Pelargoniums, nine varieties, three blooms of each, Mr. Carrington was well first with fine trusses, but not so well staged as those of Mr. Henson, who was a good second. For six double kinds, three blooms of each, Mr. Henson was first, while Mr. Carrington was first for twelve trusses of Verbenas, not more than three trusses of each. Mr. Henson was first for African Marigolds, and Mr. Carrington for Asters. Mr. Robinson gained honours for Gladioli, twelve distinct spikes.

Bouquets were good and the competition keen. For one hand bouquet Mr. Hanson was well first, Mr. Robinson second, and Mr. G. Bolas, Hopton Hall, third. In the corresponding class for ladies Miss Rowley, Green Lane, was first with a very effective arrangement of choice white flowers. For a vase of cut flowers Mr. J. Goodacre, gardener to the Earl of Harrington, Elvaston Castle, won easily with a very light arrangement. Four other exhibits were staged, two of which did great credit to the exhibitors. In the class provided for a dinner table arrangement of plants, flowers, and fruit, 8 feet long by 4 feet wide, open to ladies only, three competitors entered: Mrs. Ormeau was first, and Mrs. Ward, Riddings House, second, the plants in this arrangement being rather too heavy for the size of the table. In the class provided for wreaths and crosses Mr. Rowley, Green Lane, was the only exhibitor, one of each being superb, while a special first prize was awarded to the same exhibitor for a splendid anchor in which dark Pansies formed the chain.

Fruit.—The Grapes were exceedingly good, and the competition for the prizes offered was very keen. For two bunches of Black Hamburgs Mr. J. Campbell, Mickleover, was well first with large bunches and berries superbly finished. Mr. A. McVinish, Lockington, was second with grand examples well finished, but not so large as the others. Mr. Goodacre and Mr. Evans gained third and fourth honours respectively. For two bunches of Muscats, white, Mr. Campbell was again first with large clean bunches of Canon Hall; Mr. Goodacre second with good Muscat of Alexandria, well finished; Mr. McVinish and Mr. Slade, Clumber, third and fourth in the order named, both showing well. For two bunches of any other white Mr. Campbell was again first with large well finished clusters of Duke of Buccleuch, Mr. Goodacre second with Buckland Sweetwater, Mr. Slade third with Duke of Buccleuch, and Mr. Billings, Ham, fourth with Foster's Seedling. For two bunches of any other black Mr. Campbell was well to the fore with magnificent bunches of Gros Maroc, perhaps two of the finest ever staged. Mr. Goodacre was second with the same variety, having examples that would have been considered very good had Mr. Campbell's not been staged. Mr. Evans, Chaddesden, was placed third with large, well finished bunches of Alicante, and Mr. Vere fourth. A special prize was given by Messrs. Innes & Co. for three bunches grown by the aid of their fertiliser, and Mr. McVinish took the lead followed by Mr. Campbell and Mr. Prince; these three exhibits were very praiseworthy.

For two Melons Mr. Ward took the lead, followed by Mr. Goodacre and Mr. Robinson. For six Peaches Mr. Evans was first with a grand dish of Exquisite, Mr. McVinish and Mr. Campbell being second and third. For six Nectarines Mr. Billings was first. For six dessert Apples Mr. Webb was first, and Mr. Read, Brelby, for six kitchen Apples. For a collection of ten dishes of fruit, distinct species, Pine excluded, Mr. Goodacre was first, and staged in his well-known style; Mr. Webb was second, and Mr. J. Evans third. In this class black and white Grapes ought to be allowed. In one or two cases collections had to be left out because they were included.

Vegetables.—It would be difficult to imagine a better display of vegetables. One large tent was well filled on both sides with excellent produce; in fact, part of a second tent was taken up with them. In the class for twelve distinct species some ten or twelve collections were staged. The post of honour was accorded to Mr. McVinish, who staged a splendid lot; Mr. Ward was a good second, Mr. Shaw was a close third, and Mr. Read a capital fourth. For Messrs. Sutton & Sons' prizes for six dishes four collections were staged, Mr. T. Smith was first followed closely by Mr. McVinish. For Messrs. Webb & Sons' prizes for the same number of dishes three collections were staged; Mr. Evans was placed first, Mr. Lovett second, and Mr. G. Hampshire third. For a collection of Potatoes Mr. Salisbury was first with about thirty splendid dishes. Mr. Shaw staged fifty-one dishes, and was placed second, having several inferior dishes in the collection. Mr. Smith was placed third. Four collections were staged.

The Committee deserve congratulation. We hope, in future, some of the newer methods adopted for staging and the writing of the prize cards will be carried out, which will save time, labour, and confusion on the day of exhibition.

ROYAL CALEDONIAN.—SEPTEMBER 7TH AND 8TH.

NOTWITHSTANDING what has been universally conceded to be a bad season, the tables occupying the floor of the Waverley Market appeared as well furnished as usual on the occasion of the autumnal fruit Show held in Edinburgh last week. True, many of these were, in the words of Squire Hildebrand's unctuous gardener, Andrew Fairservice,

"decorated" by the trade; but to the tribes who go up to Athena Nova when the autumnal equinoxes have arrived that is not a matter of lamentation, for to the out-of-the-way country gardener the big show too often is the one and only means of seeing and choosing the novelties of the hour. For all such, a numerous band of nurserymen and florists of repute had a varied, interesting, and in most cases a most beautiful display. But of these more anon.

Turning our attention first of all to the tables of competition produce it was found, as is always the case, that fruit, and especially the fruit of the Vine, was the feature of the Exhibition. Most unfortunately for many of the exhibitors numbers of splendid examples of high-class culture were necessarily placed in a low position on account of want of finish, white Muscats in most cases being far from ripe, and in not a few instances black sorts were in the like condition.

Collections of Fruit.—With twelve dishes there were five competitors, the first prize being won by Mr. McKelvie, Broxmouth Park, Dunbar, with a collection in which Grapes were decidedly the chief feature. The clusters were not of large size, but perfectly ripened, and of beautiful colour and finish. The varieties were Alicante, Gros Guillaume, and Muscat of Alexandria. The other dishes comprised good Barrington and Bellegarde Peaches, Nectarines, good Figs, Melon, Clapp's Favourite Pear, Apples, Apricots, and good Jefferson Plums. The second place was accorded to the collection set up by Mr. Boyd, Callander House, Falkirk, who also had fine Grapes, the Alicante and Madresfield Court being very fine,

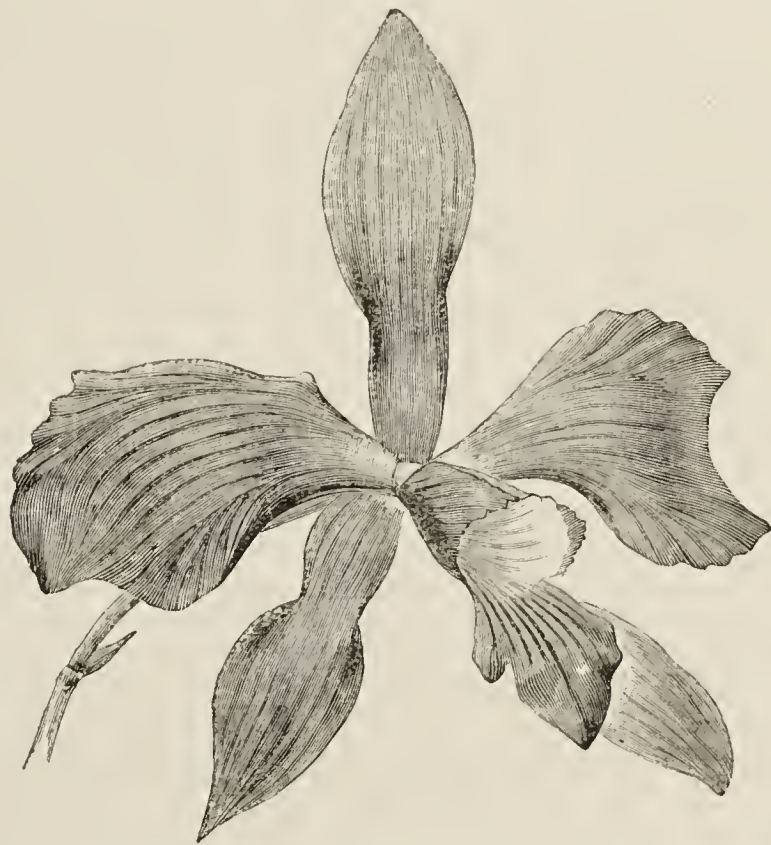


FIG. 34.—SOPHRO-CATLEYA VEITCHI. (See page 240.)

with two clusters of good Black Hamburgs. Peaches were among the best of the other dishes. Mr. Hunter, Lambton Castle, Durham, secured the third prize, the Apples and Pears being particularly fine in this collection. For eight dishes of fruit Mr. McKelvie again secured the premier award with fine Alnwick Seedling and extra fine Muscat of Alexandria Grapes, a good Smooth Cayenne Pine Apple, Peaches, fine Humboldt Nectarines, Melon, Figs, and Apricots. The second and third places were taken respectively by Mr. Smith, Oxenford Castle, and Mr. McIntyre, The Glen, Peebles, good collections being set up by each exhibitor.

For a collection of orchard house fruit Mr. Hunter was the only exhibitor, and had first prize awarded for an extra fine display, Pitmaston Duchess and Souvenir du Congrès Pears and Cox's Pomona and Golden Winter Pearmain Apples being the best dishes. For a collection of hardy fruit the prizes were secured by Mr. Dow, Newbyth, Prestonkirk; Mr. Day, Galloway House, Dumfries; and Mr. John McIntyre, Darlington.

Grapes.—Six lots of six bunches in three sorts were staged for the handsome prizes offered in this class. The splendid examples of Black Alicante, Madresfield Court, and Black Hamburg staged by Mr. Boyd secured for him the premier award; Mr. Murray, Park Hall, Polmont, coming in a very good second with extra Cooper's Black, Alicante, Madresfield Court, and a good Muscat of Alexandria. Mr. Kirk, Norwood House, Alloa, was third with good bunches. With four bunches, distinct varieties, Mr. Leslie, Pitcullen House, Perth, was first, the sorts being Black Hamburg, Alicante, Muscat of Alexandria, and good Gros Maroc. Second, Mr. Murray, Polmont; and equal third, Mr. Kirk and Mr. Green, Yester, Haddington. For two Muscat of Alexandria Mr. McKelvie secured the first place with medium thoroughly ripened clusters. Second, Mr. J. Mattison, Currie, with large bunches; and third, Mr. Day. Mr. Murray, Polmont, was first with two very fine examples of Black Hamburg in a very largely filled class of extra good Grapes

Mr. McKinnon, Melville Castle, Lasswade, was second; and Mr. Boyd third. In the one bunch class Mr. Kirk had the finest Black Hamburg; Mr. Caldwell, Langholm, Muscat of Alexandria. Mr. Green the finest Alicante in a good class. Mr. Boyd second. The latter was first for extra Lady Downe's; Mr. Murray, Culzean Castle, for Alnwick Seedling; Mr. Kirk for Gros Colman; and Mr. Day for fine Gros Maroc in the class for any other black sort than those named. Mr. Murray was first with Foster's Seedling for any other kind of white.

Other Fruits.—Mr. McKelvie, in a small class, had the best Smooth Cayenne Pine Apple; Mr. McIntyre, The Glen, was first for two Pine Apples, Mr. McKelvie second, and Mr. Boyd third. The best Figs were staged by Mr. D. Murray, and the finest twelve Peaches and also twelve Nectarines by Mr. Lunt, Ardgowan. Both of these were notable dishes in very largely filled classes. The best six varieties of dessert Plums were those of Mr. Bowman, Lasswade, and the best kitchen sorts those of Mr. Day. There were also single dishes of these. Of Apples and of Pears there were very large quantities, but nearly all were green and very few anything like ripe. The best collection of Apples in twelve varieties was that of Mr. D. Murray, who also had the best collection of Pears. In the class for single dishes of Apples were some good Ecklinville Seedling and Lord Suffield. Good single dishes of Strawberries, Cherries, Gooseberries, and Currants in variety were staged in large numbers.

Plants.—One of the best features in the Exhibition was the arrangement of plants with which Mr. John McIntyre of Darlington secured the first prize for a table of plants 20 feet by 5 feet. This was very well done indeed, while the plants were varied and well grown. The second prize was secured by Mr. Wood, Oswald House, Edinburgh. The specimen flowering and foliage plants were not in large numbers, and were of medium size. Mr. McIntyre was first for six flowering stove or greenhouse plants, Mr. Geo. Wood having the corresponding position for three. Mr. McIntyre was also first for four foliage plants and for Dracenas and Crotons. Orchids were only a small exhibit, Mr. Sharp, Forgandenny, being first for four and one, and Mr. Currie, Eskbank, first for two species. Ferns were of fair size and beautifully fresh, Mr. James Napier, Murrayfield, securing the chief prizes—*e.g.*, for six exotic, three exotic, four Adiantums, three Filices, and six British Ferns. There was also a fair display of Fuchsias, Tuberos Begonias, Chrysanthemums, Lilliums, Zonal Pelargoniums, Cockscombs, &c.

Vegetables.—These were very plentifully represented, several collections of twelve sorts being set up in most excellent condition. In this class Mr. Low was first, and had, among other seasonable sorts good Tomatoes, Cucumbers, Cauliflowers, Onions, Leeks, and Celery. Mr. W. Harper was a good second, and Mr. Rae, Sunlaw, Kelso, third. In the single dishes Mr. Sime, Prestonkirk, was first in a good competition with twelve extra fine Tomatoes. Mr. Wilkins, Hensbridge, Blandford, and Mr. Bowerman, Hackwood Park, Hants, with Onions, were respectively first and second for these useful esculent with enormous bulbs. Mr. P. Robertson, Jedburgh, had first place for twelve sorts of Potatoes, and Mr. J. Riddell, Chapelton the first prize in the corresponding class for six sorts.

Cut Flowers.—These were rather sparsely represented. The feature among them was undoubtedly the stand of thirty-six lovely Roses with which Messrs. Cocker & Sons, of Aberdeen, secured the first prize; every bloom was in perfect condition, and was characterised by extreme freshness. Messrs. D. & W. Croll, Dundee, were a good second. Good Carnations and Picotees were staged in both the nurserymen's and gardeners' section; in the former Mr. M. Campbell, Blantyre, taking the first prize, and in the latter Mr. R. Cossar, Musselburgh. Messrs. Stuart & Mein, Kelso, were first for thirty Gladioli, good spikes of Formosa, Aurore de Feu, Opale, Bicolore, Pasteur, Enchanteresse, Horace Vernet, and Dr. Bailly being prominent. Mr. Whitelaw, Brechin, had the best twelve spikes. Messrs. Kerr & Sons, Kalemouth, staged some fine Hollyhock spikes, securing first prize for these. Dahlias in the several classes were well represented, Mr. Campbell being a good first for twenty-four blooms, Show, Messrs. Cocker & Sons first for eighteen and twelve Show sorts, and Mr. H. Dickson, Belfast, first for twelve Fancies. Mr. M. Forrest, Mr. J. Aitken, and Mr. Pearson were the chief prize-winners in the smaller classes devoted to gardeners. Good Pansies, Chrysanthemums, stove and greenhouse plants, and Orchid blooms were also staged.

Miscellaneous Exhibits.—As already indicated, these formed a very interesting addition to the competitive produce. In one corner Messrs. Cocker of Aberdeen had a most attractive display of cut hardy herbaceous, and other flowers, and round these a constantly changing group of notetakers congregated. Next to it a more modest if not less interesting exhibit was equally attractive and as difficult of access. This comprised a collection of thirty-six sorts of the newest and best of Mr. Eckford's Sweet Peas, presided over by the genius who evolved them. In close proximity to these Mr. T. S. Warr, Hale Farm, Tottenham, had a group of well-grown double Begonias of the best sorts, with a few singles intermixed. Close to these, again, a selection of many kinds of florists' flowers from Mr. J. Forbes, Buccleuch Nurseries, Hawick, filled a large table. In another part of the building Carnations set up among Maidenhair Ferns were a speciality which Messrs. Laing & Mather of Kelso, illustrated with examples of such popular sorts as Mrs. Muir, Germania, Duchess of Fife, and others. Messrs. Storie & Storie, Dundee, had a group of plants with cut flowers of Carnations, and so on.

In another corner Mr. D. W. Thomson had a semicircular group arranged on the floor and consisting of a varied collection of stove and greenhouse decorative plants. Messrs. Birkenhead had a table of their

Ferns from Sale, while Messrs. Methven, of Edinburgh, had on one table a mass of Begonias and on another a group of excellent plants for effect. Messrs. Dicksons, Waterloo Place, among a number of plants of the same character had many examples of cut flowers and Apples from their fruit nursery at Liberton, Midlothian. Messrs. R. B. Laws and Sons produced a light and effective arrangement of foliage and flowering plants, and Mr. Glass, Florist, George Street, another composed of the plants employed in the floral decoration business.

At one end of the building a honey show with bees at work, and illustrations of subjects connected with apiculture, formed the centre of much attention.

INTERNATIONAL HORTICULTURAL EXHIBITION.

SEPTEMBER 9TH AND 10TH.

THE list of special fixtures at the International Horticultural Exhibition was continued with a show of autumn flowers on Friday and Saturday of last week. As usual, an extensive display was got together, largely composed, as was to be expected, of Dahlias, Gladioli, and miscellaneous hardy flowers. The class for a collection of the former arranged for effect, similar to that at the Crystal Palace a year or two ago, proved to be a great success, and was undoubtedly the most attractive portion of the Exhibition, the competing displays forming a grand floral spectacle along one side of a large annexe. Gladioli were of splendid quality, but there was nothing noteworthy amongst the Chrysanthemums. The different non-competing exhibits referred to at the end of the report contributed greatly to the beauty of the Exhibition.

The collections of stove and greenhouse flowers in bunches, not less than twelve varieties, were extremely beautiful. Mr. A. Gibson, gardener to T. Burnaby Atkins, Esq., Sevenoaks, won with delightful clusters of bloom, but they would have been all the better if they had been arranged a little more loosely. He had *Pancratium fragrans*, *Dipladenia Brearleyana*, *D. insignis*, *D. amabilis*, *D. boliviensis*, *Allamanda magnifica*, *A. Hendersoni*, *Ixora Dixiana*, *I. Fraseri*, *I. Williamsi*, *I. Prince of Orange*, *Eucharis amazonica*, *Lapageria rosea*, *L. alba*, *Bougainvillea glabra*, *Clerodendron fallax*, *C. Balfourianum*, *Statice profusa*, *Anthurium Schertzerianum*, *Stephanotis floribunda*, *Rondeletia speciosa*, seedling *Gloxinias*, *Plumbago capensis*, white *Petunias*, and *Franciscea calycina major*. Mr. J. Prewett, Hammersmith, was second with a charming collection; although the material was hardly so good as in the other stand the flowers were better displayed. An extra prize was awarded to Mr. J. T. Hoare, Twickenham.

Gladioli in collections formed a magnificent display. Messrs. Burrell and Co. had an exhibit as remarkable for the quality of the spikes as for its extent, and were deservedly placed first. Some of the varieties were superb, and although too numerous for all to be named, *Dalila*, *Grand Rouge*, *Pasteur*, *Flambeau*, *Baroness Burdett Coutts*, *Cygnets*, *Carnation*, *Abriote*, *Florence*, *Amitié*, *Crèpuscule*, *Gladys*, *Irene*, Mr. Fowler, Mrs. Peter Blair, John Wills, and Hetty Dean may be noted as particularly beautiful. There were also many fine seedlings. Messrs. Harkness and Sons, Bedale, had a smaller but very fine collection. Some of their spikes were quite remarkable, notably *Baroness Burdett Coutts*, *Enchanteresse*, and *Dalila*, while others were excellent. They received the second prize. Mr. E. B. Lindsell, Bearton, Hitchin, who bids fair to grow Gladioli equally as well as Roses, was the only exhibitor in the amateurs' class, but he had a very good collection, and merited the first prize which was awarded. But why not have named the varieties?

Dahlias were freely shown, and added largely to the attractiveness of the Exhibition. Four competed with sixty Show and Fancy varieties, Messrs. Keynes, Williams & Co., Salisbury, following up their brilliant successes at the Crystal Palace and Royal Aquarium by scoring another highly meritorious victory. As at other exhibitions, their flowers were more noteworthy for freshness, build, and colour than great size. The present must be ranked as a year of somewhat small flowers. The best blooms in the first prize stand were *Alice Emily*, a sport from T. W. Girdlestone; *Buttercup*, *Peacock*, *Harry Keith*, *John Hickling*, a sport from Rebecca (dark self), and *William Rawlings*. Mr. Chas. Turner, Slough, followed somewhat closely, but on the whole his flowers were somewhat smaller than those in the first prize stand. In freshness and colour they were unexceptionable. Perhaps John Standish, Maud Fellowes, T. W. Girdlestone, *Harry Keith*, *John Bennett*, and *Constancy* were the best blooms. Mr. G. Humphries, Chippenham, was third. There was a very close struggle with twenty-four blooms, and it was only after a very careful scrutiny that the award was given in favour of Mr. Mortimer, Farnham. He had an excellent stand, the flowers being noteworthy for freshness and fine colour; *Burgundy*, *Jas. Cocker*, *John Hickling*, *Clara*, and Mrs. David Saunders were very fine examples. Mr. J. Walker, Thame, was second with a very even and good stand, the best blooms being *Harry Keith*, *Jas. Cocker*, *Majestic*, and *R. T. Rawlings*. Messrs. Saltmarsh & Son, Chelmsford, were third with smaller but fresh neat flowers. Messrs. Harkness & Son had very large albeit somewhat coarse flowers, and were awarded fourth prize.

The amateurs showed well also. Mr. Thos. Hobbs, Easton, Bristol, fairly defeated Mr. J. T. West, gardener to W. Keith, Esq., Cornwalls, Brentwood, in the class for twenty-four, having decidedly heavier blooms. Both were good stands, although the flowers ran rather small. Mr. Hobbs showed *John Hickling*, Mr. Glasscock, *Hope*, *A. Ocock*, and *Dorothy* well, while Mr. West's best flowers were *Queen of the Belgians*, *Maud Fellowes*, and *Ethel Britton*. Mr. A. Ocock, gardener to Mrs. McIntosh, Havering Park, Romford, was third; and Mr. Sidney Cooper, Chippenham, fourth. The last named was first with twelve, having a

beautiful stand, the other prizes going to Messrs. West, Vagg, gardener to J. Theobald, Esq., M.P., and Hobbs.

A splendid feature was introduced through the inclusion of a class for a collection of Dahlias (any types) arranged for effect. This brought out abundance of beautiful material, and the effect produced by the various unconventional methods of arranging it was very fine. Messrs. Keynes, Williams & Co. received the premier award, their group being composed of a large columnar centrepiece furnished with Cactus varieties set in moss, two small end columns, and six shields chiefly furnished with Pompons. In front were stands of Show, Fancy, and Cactus varieties. There was quality of bloom as well as tasteful arrangement to be noticed. The second prize went to Messrs. J. Cheal and Sons, whose arrangement was essentially different. It consisted of a central sloping bank surmounted by a large basket and two small end banks, between these being bunches of Pompons, and towards the front boxes of Show and Fancy blooms, with Cactus and single varieties dotted about on a groundwork of Fern. Mr. T. S. Ware, Tottenham, was third, with a somewhat similar arrangement, but no boxes were introduced. All were beautiful displays.

Cactus Dahlias, eighteen varieties, in bunches of six, were best shown by Mr. C. Turner, who had a splendid stand, in which Sir Hugo, Panthea, Beauty of Arundel, Honoria, and Blushing Bride were very fine. Messrs. Keynes, Williams & Co. were a very close second with Bertha Mawley, Kynerith, Kaiserin, and Countess of Pembroke, extremely beautiful. Messrs. J. Cheal & Son were third. Mr. Turner won again with twenty-four varieties of Pompons, a model stand, the flowers being very fresh, neat, and refined. Messrs. Keynes, Williams & Co. were second, and Mr. M. V. Seale, Sevenoaks, third, both showing creditably.

There were two classes for Asters, and these flowers were charmingly shown. Messrs. Saltmarsh & Son were first, Mr. Sidney Cooper second, and Mr. J. Walker third with quilled flowers, while in the class for French Mr. Walker was first, Messrs. Saltmarsh & Son second, and Mr. Cooper third.

Chrysanthemums were not a very prominent feature of the Show. There were two groups of plants, and the awards were the same as at the Aquarium—namely, Mr. Vince, Highgate, first; and Mr. N. Davis, second. A second prize was awarded to Mr. Peter Blair for cut blooms. Mr. G. H. Sage received the first prize for Sunflowers, Messrs. Burrell and Co. the second, and Messrs. Paul & Son, Cheshunt, the third. Mr. Sage received a second prize for Michaelmas Daisies. Mr. J. R. Chard won for a funeral design, having a beautiful white anchor; Miss Baines was second, and Mr. Larke third. Mr. Chard was also first for a hand bouquet and for a vase of flowers and foliage, other prizes going to Mrs. Seale, Miss Baines, and Mr. Hudson.

Plums were well shown by private growers. Mr. W. Carr, gardener to Mrs. Clarke, Croydon Lodge, won with three dishes of dessert varieties, having good dishes of Kirke's, Jefferson, and Bryanstone Gage. Mr. P. Blair, Trentham Gardens, was second; and Mr. McIndoe, gardener to Sir J. W. Pease, Bart., Hutton Hall, Guisborough, third. The last-named won with cooking varieties, having splendid dishes of Magnum Bonum and Monarch, with Pond's Seedling fair. Mr. Carr was second, and Mr. Sage, gardener to Earl Dysart, Ham House, Richmond, third. The nurserymen's classes did not fill. There appeared to be only one competitor with Apricots, Mr. McIndoe, and he received the first prize for good dishes of Moor Park, Large Early, and Peach.

The miscellaneous exhibits were numerous and varied. Messrs. Lane and Son, Berkhamsted, sent a collection of Vines in pots. They were trained on a bamboo framework 18 inches in diameter at the base and 3 feet at the top, and carried about ten neat bunches each, the varieties being Alicante, Buckland Sweetwater, Black Hamburgh, Foster's Seedling, and Gros Maroc. They also had branches of Plums, together with dishes of Apples, Plums, and Nuts, and received a silver-gilt medal. Messrs. Cheal & Sons, Crawley, contributed a stand of Dahlias, single, Cactus, and Pompon, hardy flowers and fruit (silver medal). Messrs. Reid & Bornemann, Sydenham, were represented by a handsome group of Chrysanthemums and other plants similar to that arranged by them at the Crystal Palace (silver medal). Messrs. J. Laing & Son, Forest Hill, had a large bank of herbaceous flowers comprising a considerable diversity of good material admirably set up, also double Tuberous Begonias, Roses, and Apples, with a few orchard-house trees (silver-gilt medal). Messrs. Chas. Lee & Son, Hammersmith, had a large and interesting bank of hardy foliage plants, also a beautiful collection of herbaceous plants and Dahlias. They had excellent material admirably arranged. It is a pity the foliage plants were not clearly named; they would have proved instructive to many. A silver-gilt medal was awarded. Messrs. Jarman & Co., Chard, had a bank of Dahlias, Phloxes, Gladioli, and other flowers set up in moss and interspersed with Ferns. It was very attractive (silver medal). Mr. H. Wrede, Lüneberg, Germany, sent a collection of Pansy blooms (silver medal). Mr. Chas. Turner had some fine stands of Dahlias (silver medal), as had Mr. G. Humphries (bronze medal).

Messrs. B. S. Williams & Son, Upper Holloway, were represented by a large and handsome group of Crotons, Dracænas, and other foliage plants—clean, healthy, and well coloured (silver-gilt medal). Mr. C. Williams showed shell table decorations. Messrs. Cannell & Sons, Swanley, had a beautiful collection of Cactus and Pompon Dahlias. They were arranged in bunches with Asparagus, and rose above a cool groundwork of Fern, which brought the colours out splendidly. Juarezzi, Ernest Cannell, Beauty of Arundel, Robert Cannell, Yellow A. W. Tait, Sir Roger, and Cannell's Favourite were very noteworthy. They also had a stand of double Begonias (silver-gilt medal). Mr. E. F. Such,

Maidenhead, sent a bright collection of hardy flowers, Dahlias, and Roses (silver medal). Messrs. E. D. Shuttleworth & Co., Peckham Rye, contributed a splendid bank of Palms, foliage plants, and large groups of Lilliums, occupying the whole of one end of the largest annexe. A fine plant of *Blechnum splendens* was noticeable, also two good specimens of *Rhaphis humilis* (gold medal). Messrs. Wills & Segar also had some huge Palms. Messrs. Cutbush & Son, Highgate, had a bright and varied display of hardy flowers, but they had hardly enough room at their disposal for arranging them effectively (silver medal). Mr. G. Garner, gardener to Mrs. Braddyll, Amberwood, Christchurch, contributed a collection of fruit, which included some splendid clusters of Alnwick Seedling and Madresfield Court Grapes (silver medal). Mr. McIndoe, gardener to Sir J. W. Pease, Hutton Hall, Guisborough, sent four splendid dishes of Peaches. Golden Eagle and Exquisite were superb (bronze medal). Mr. R. Nicholas, South Molton, exhibited a very fine collection of Pine Apples (silver medal).

Mr. A. Rawlings, Romford, had several stands of Show and Fancy Dahlias, comprising numerous excellent blooms (silver medal). Mr. J. Walker, Thame, also exhibited Dahlias. Mr. J. T. West, gardener to W. Keith, Esq., contributed some beautiful stands of Show, Fancy, Cactus, and Pompon Dahlias. He was awarded a silver medal, and another went to Mr. Mortimer for a similar exhibit. Messrs. Pitcher and Manda, Swanley, set up a charming group of hardy flowers, in which there were several interesting things (silver medal). Mr. Carr had some good Peaches and Nectarines.

Messrs. Paul & Son, The Old Nurseries, Cheshunt, had a very large and beautiful display, comprising Roses, Dahlias, Phloxes, Michaelmas Daisies, Carnations, and numerous other flowers (silver-gilt medal). Mr. R. Dean, Ealing, received a bronze medal for a collection of French Beans. Mr. W. Salmon, a working West Norwood amateur, exhibited a good collection of Asters, Dahlias, Zinnias, and various other flowers, and well deserved the bronze medal awarded. Mr. W. Welsford, South Lambeth, received a bronze medal for a collection of flowers grown in a town garden. Mr. W. Wells, Earlswood, Red Hill, received a bronze medal for a collection of Chrysanthemums. Mr. Chard was awarded a silver medal for some beautiful table decorations, and Mr. Seale a bronze medal.

LEICESTER AND MIDLAND CHRYSANTHEMUM SOCIETY.—

FIRST ANNUAL SHOW OF EARLY FLOWERING CHRYSANTHEMUMS, DAHLIAS, AND ASTERS.—SEPTEMBER 10TH.

THE Committee of the above named Society determined this season to follow the example set by the National Chrysanthemum Society and initiate a Show as above. A suitable room was found for the purpose in the lecture hall of the Young Men's Christian Association, a well lighted, centrally situated, and convenient room, which, when furnished, the tables with cut flowers, plants, and vegetables, and a portion of the floor space with groups of specimen plants and Ferns, had a very pleasing effect.

Chrysanthemums were not numerous shown, but there were some very meritorious exhibits both in plants and cut flowers. First to be noticed on entering the room was a group of fifteen bunches of early flowering Pompons exhibited by Mr. Robt. Owen, Castle Hill, Maidenhead, not for competition. In the open class competition Mr. W. K. Woodcock, Barkby Road Nurseries, Syston, was placed first in each of the two classes for six blooms of early flowering Chrysanthemums, distinct, and for six bunches, not more than six flowers in a bunch. Messrs. H. & J. Hickling were second for six blooms, and Mr. H. Jordan for six bunches. In the amateurs' class for six blooms Mr. H. Yeomans was first and Mr. H. Jordan second.

In the open class for twelve Show or Fancy Dahlias the exhibits were very fine and competition close. Messrs. Hickling were placed first, their varieties being James Cocker, Perfection, Colonist, Mrs. W. Slack, Mrs. Peter McKenzie, Majestic, Rev. J. B. M. Camm, Mrs. G. R. Jefford, Eclipse, Mrs. Langtry, Duke of Fife, and Peacock. The second prize stand was shown by Mr. James Wright, 49, Granby Street, Leicester. Adjoining these were thirty blooms of seedling Cactus Dahlias raised by Mr. J. Lansdell, Barkby Hall Gardens, Leicester. Two of these were singled out by the Judges for awards of merit; one especially is likely to come to the front as a popular and useful variety. The colour and marking are similar to W. T. Abernethy, but it is far superior to that well known variety in form. In the amateurs' class for six Show or Fancy Dahlias Mr. T. Faulkner, Myrtle Road, was first with neat, medium sized blooms, and Mr. E. Neale, Clarendon Park, second. For twelve Pompons Mr. H. Yeomans was first, Mr. E. Neale second. For six Pompons Mr. H. Yeomans was first and Mr. J. Bowles second. For six blooms of Cactus Dahlias Mr. H. Yeomans was first, Mr. E. Neale second, and Mr. T. Faulkner third. For twelve Asters grown by amateurs, first, Mr. H. Yeomans. Second, Mr. J. Bowles. Third, Mr. T. Faulkner. Extra prize, Mr. J. Bowles. These were all of high quality, being large, clean blooms, brightly coloured and so exceedingly close in order of merit that the Judges were a long time in making their awards.

For collections of vegetables Mr. E. Neale was first, Mr. H. Yeomans second, Mr. T. Faulkner third, and Mr. W. Henson, Flax Road, fourth.

Exhibits not for competition comprised a fine collection of vegetables and bunches of annuals, cut flowers, by Messrs. Harrison & Sons, Royal Midland Seed Stores, Leicester; a fine group of Chrysanthemums and Ferns by Mr. J. Smith, gardener to S. Bennet, Esq., Holme-firth, Leicester;

a group of early flowering Chrysanthemums, Asters, and foliage plants by Mr. W. K. Woodcock; a group of large specimen Zonal Pelargoniums and Coleus by Mr. H. Rogers, Gipsy Lane Nurseries, Leicester; a group of Palms, foliage plants, cut Delphiniums, Phloxes, and a tray of vegetables by Mr. H. Bell, the Hon. Sec.; Dahlias by Mr. G. Perkins, Birstall Lane Nurseries, and Mr. Jas. Wright, Granby Street; also a fine box of Comet Asters by Mr. H. Rogers.

The Show was formally opened at 2 P.M. by Mr. Alderman Kempson in the unavoidable absence of the Mayor, who had undertaken the duty. During the afternoon papers were read on the "History and Culture of the Dahlia" by Mr. W. Bell, F.R.H.S., and on the "Early Flowering Chrysanthemum" by Mr. W. K. Woodcock, F.R.H.S. Chairman, Mr. Councillor Collins.



HARDY FRUIT GARDEN.

Preparing Ground for Planting.—The importance of making a good start when fruit culture is contemplated ought to be impressed on everyone at the present time of the year. The actual work of planting fruit trees is not laborious when every preparatory detail has been carefully worked out beforehand at the proper time. The first object for careful consideration is the selection of a proper site. Most fruit trees like a sunny, open, breezy position, and if such a site can be secured with adequate shelter from strong winds, they will succeed, provided the soil is suitable.

Draining Soil.—If situated where the natural drainage is defective the land will not grow satisfactory fruit, except perhaps Black Currants; and, therefore, after the selection of a site, the proper draining of the soil is the next important matter to be dealt with in the preliminary preparations. If a sure test of its condition is needed, dig a hole 3 feet deep in some part of the land selected, allowing it to remain open for some time. If, in the course of a short period water collects in the hole from the surrounding subsoil, then draining will be absolutely necessary, but if little or none finds its way there the artificial draining will not be needed.

Deep Cultivation and Manuring.—Trenching is of great advantage to the generality of soils if performed in the right manner. This consists of not bringing to the surface a large bulk of inert hungry subsoil and disposing the better surface soil below, but rather in moving it to the depth of 2 feet without materially altering the position of the surface, which is generally considered to be the best. If very poor indeed it may be desirable to add well decayed manure during the process of trenching, but ordinarily fertile soil that will grow good vegetables will also grow good fruit without adding manure during digging operations, and too much of this forces rank, sappy growth. Manure is best applied to fruit trees from the surface.

Soil.—The most generally useful soil for fruit trees is a strong loam, slightly approaching to marl or clay. Stone fruit trees require it more of a calcareous nature, or made so by the addition of lime. A somewhat firm soil being an essential in fruit culture early preparation affords time for a deeply moved plot of ground to become consolidated by the time the planting period arrives. Land laying rather low, not absolutely waterlogged, yet sufficiently damp to militate against satisfactory results being attained, may be improved by being laid up in wide ridges, so as to raise it above the original level. In damp situations stations are also formed in a similar manner for each tree, 6 or 8 feet in diameter usually proving sufficient. The advantage of early preparation of the ground affords the opportunity of doing the work well, when the weather is finer and the soil drier than is sometimes the case in late autumn. It also gives the planter the means of selecting the time for placing in the trees at an earlier period when the weather is favourable for the work. Hurried preparation of the ground and hasty planting in probably damp weather, when the soil impedes the free use of the tools and attaches itself to the boots, is never satisfactory. It is even more important that the borders in front of walls intended for fruit trees should be prepared early, because of the sinking of the ground which follows deep stirring.

Lifting and Root-pruning.—Irregularity in crops of fruit is often followed by superabundant growth, and consequently further unfruitfulness. This can often be remedied by careful lifting and replanting, or if not root-pruning is often a remedy and always a check to strong growth. The present is a very favourable time to note the trees, observing the tendencies they have in the way of wood growth. Restricted trees disposed to make much secondary growth after being duly stopped since the summer pruning or pushing strong growths from latent buds in various parts of the trees would be benefited by lifting and replanting if small in size, and by root-pruning if of large proportions. The operation, however, need not, in fact should not, be done at present, unless very carefully or only partially operated upon.

Strawberries.—The season being favourable for the abundant rooting of Strawberry runners, which have been left between the plants, these, if carefully lifted and planted now on good ground, will grow vigorously, and almost certainly produce a good crop of fruit next year.

The ground between earlier planted runners may be kept freely hoed in intervals of dry weather to destroy seedling weeds. In many cases Strawberry beds containing established plants are much neglected from the time the fruit is gathered until late in autumn, when a wholesale clearance of runners and weeds is effected. This is a great disadvantage, because the main crowns are deprived of support as well as light and air by the rank growth of runners. All such should be cleared away forthwith, so that the crowns of the main stools may become plump and strong before growth ceases. By this means severe winters have less effect upon the plants, and they start strongly again in the spring, although the old foliage may have been severely crippled by the winter's frosts.

FRUIT FORCING.

Vines.—*Young Vines.*—These should have every encouragement essential to the perfecting of their growths, keeping the foliage clean, removing all laterals, as growth produced after this time is of no value, and maintain a warm well ventilated atmosphere until the canes are thoroughly ripened. Any supernumeraries intended to fruit heavily next season should have the laterals cut away to the principal buds, leaving, however, an outlet for any excess of sap by a few joints of the laterals beyond the length of cane to which they are to be shortened, and be careful not to injure the principal leaves. If the wood does not ripen well it may be accelerated by keeping the house rather close in the daytime, so as to get a temperature of 85° to 90° from sun heat, opening the ventilators at night. Afford sufficient water at the roots to prevent the foliage becoming limp.

Midseason Houses.—When the Grapes have been cleared from the Vines divest the shoots of their laterals down to the principal buds which are to be retained for next year's fruiting, but be careful to avoid injuring the old leaves, for upon their preservation in health depends the maturation and plumping of the buds, also the storing of food in the adjacent wood, as well as the ripening of the wood, which is essential to a good break and a proper development of the bunches in their early stages next season. Allow a free circulation of air, and in the case of young or luxuriant Vines, or where there is the least doubt about the thorough maturity of the wood, maintain a gentle warmth in the hot-water pipes. After the removal of the laterals clear off the remains of mulchings or remove the loose surface soil, particularly near the collar of the Vines, picking the old soil from amongst the roots, and supply fresh lumpy loam in its place. Avoid burying the roots deeply, a couple of inches is deep enough. They will push adventitious roots into the new material, and these can be encouraged to any extent by timely surface dressings or light mulchings when the Vines are in need of support another season. If a handful of steamed bonemeal is sprinkled on each square yard of border, and double the quantity near the stems, it will aid the Vines wonderfully in the early stages of growth another year. Inside borders will need watering so as to keep the soil healthfully moist. Outside borders should have the benefit of October rains, and may be covered with 3 or 4 inches of dry leaves in November, with a little litter over them. In the case of borders that are only partly made a breadth of about 2 feet may be added to the front, choosing dry weather for the operation, and compressing the materials moderately. If inside afford a good watering, if outside it will not be necessary unless the compost is dry; cover up in due time as before advised.

Late Muscats.—These require fire heat until they are thoroughly ripe, with a free circulation of air in the daytime, and enough at night, with gentle warmth in the pipes, to insure a circulation of air and to prevent the deposition of moisture on the berries, being careful to admit air rather freely on fine mornings. Continue this until the Grapes are thoroughly finished, when a gradual reduction of temperature may be made to about 50° at night, but there must not be any hurry in this, as the Grapes put on colour long after they appear finished, and improve in quality so long as there are any leaves on the Vines. Keep the border moist by watering as necessary in the early part of a fine day, for though the leaves become yellow at the edges they have green parts more or less that are useful in assimilating and storing food. Moisture must be kept down by free ventilation; it is pent-up air with a sudden increase of temperature from sun in the early part of the day, or at any time, which causes moisture to condense on the berries and produce spot, when the berries speedily decay.

Late Grapes.—The thick-skinned Grapes are not so fastidious as regards moisture as the thin-skinned Muscats (Canon Hall and Muscat of Alexandria), for Mrs. Pince Muscat will shrivel in a house where there is sufficient moisture to cause Muscat of Alexandria to rot. They are also liable to give evidence of finish that will not bear close examination, therefore make sure that the berries are well finished quite up to the shank before ceasing the needful aid from fire heat. Mrs. Pince's is perhaps the worst to finish of all Grapes, and unless it is thoroughly ripened it is sure to shrivel. Alicante and Lady Downe's finish better and in less time than Gros Guillaume and Gros Colman, therefore the latter should be given more time; also the white varieties, Syrian and Trebbiano, and after they are apparently finished a temperature of 55° should be assured, with a rise of 5° to 10° by day and a circulation of air until the foliage is giving indications of falling, when a temperature of 50° is sufficient. The inside borders should be watered in the early part of a fine day and air be freely admitted, for it is not so much the moisture as its confinement that causes berries to crack. Outside borders will be quite damp enough, and should be covered later on with spare lights to throw off heavy rains.

Late Hamburgs.—Houses of these that were allowed to start

naturally will perhaps need a little fire heat to colour and finish the Grapes satisfactorily, as they will when it is hopeless to do anything more with the thick-skinned varieties. They should have a temperature of 60° to 65° at night and 70° to 75° in the daytime, with a circulation of air constantly and free ventilation when favourable. Water the inside border if necessary, and the Grapes are only partially advanced in ripening. Only restrict the laterals to prevent overcrowding, as a good spread of foliage over thin-skinned black Grapes is the best safeguard against the sun taking colour out of them when ripe. When the Grapes are ripe gradually reduce the temperature, maintaining it at about 50° by artificial means by day and 5° less at night, with a little air constantly.

Cucumbers.—*Autumn Fruiterers.*—These must have every attention as regards affording copious supplies of liquid manure, removing superfluous laterals so as to guard against an overcrowded condition of the growths, taking off surplus fruits, male flowers, and tendrils, avoiding overcropping, and not allowing the fruit to remain on the plants after it becomes fit for use. It will keep several days in a cool place with the neck end stood in a saucer of water. Secure a genial atmosphere by damping available surfaces other than the plants in the morning, afternoon, and evening, syringing the plants lightly early in the afternoon of fine days. Train and regulate the growths about twice a week, pinching the laterals or shoots one or two joints beyond the show of fruit, and retain no more foliage than can have full exposure to light. Supply water as required, that and liquid manure being of the same temperature as the house. To encourage growth earth up the roots as they show at the sides of the hillocks or ridges, only just covering up the roots each time of their showing, the soil having been placed in the house so as to become warmed through before use.

Winter Fruiterers.—If these have not been planted out no time should be lost in effecting it, or if the house is not ready shift the plants into large pots and keep them growing near the glass in a temperature of 70° at night and 75° by day, with an advance of 10° to 15° from sun heat. If fermenting material is used for bottom heat it should be in preparation by throwing it into a heap, damping and turning the heap over to induce fermentation and the dissipation of noxious gases before making up the beds. Bottom heat, however, is better supplied by hot-water pipes surrounded and covered with rubble or placed in a chamber under the bed.

Pits and Frames.—The temperature should be maintained at about 65° at night by renovating the linings as necessary and placing night coverings over the lights to prevent too great a reduction of the heat. Keep the foliage thin by removing bad leaves and exhausted growths, and close early in the afternoon so as to husband as much of the sun's heat as possible. Afford water only at the roots to keep the foliage from flagging, and sprinkle the plants overhead only on fine days and soon after noon.

PLANT HOUSES.

Camellias.—These will bear stronger insecticides without injury now than at any other period of their growth. If scale or other insects exist upon them they should be thoroughly washed with a solution of petroleum and water at the rate of 1 oz. of the former to each gallon of the latter. Every portion of the tree should be well soaked and the trees shaded from bright sunshine for two or three days afterwards. If any traces of insects are left the application should be repeated in about a fortnight. After the trees are thoroughly cleaned expose them to full light and sunshine to harden and ripen their wood. This is necessary if the flower buds are to remain on and develop satisfactorily at the proper time. Abundance of air should be given both day and night, and the syringe should be used freely. Keep the plants moist, and if confined at their roots, or growing in poor soil, weak stimulants should be given every time they need water. When the flower buds are swelling the plants are rooting freely and need feeding more than is necessary during any other period of their growth. Occasional doses of soot water in a clear state are very beneficial and impart a fine dark hue to the foliage.

Azaleas.—Plants that are to flower early and have been standing outside should be housed at once. Before doing so, however, clean the house in which they are to be arranged thoroughly. If any thrips exist upon the plants they should be well washed over a tank with a solution of tobacco water, using 1 oz. of soft soap to four gallons, and adding a piece of common washing soda the size of a cob nut. The old stock, in whatever stage of growth the plants may be, should also be washed if infested with insects. Every effort should be made to stamp out thrips at this season of the year; if any are left upon the plants they increase rapidly after they are introduced into the forcing house. Those plants that have not been repotted may have their last application of Standen's or other favourite manure applied to the surface of the soil. When the plants are housed, arrange them, if possible, on a moisture-holding base, do not allow the plants to become dry, and syringe them freely. Any plants that are trained and need tying should be attended to as opportunity offers, so that the foliage will have ample time to turn to the light before the approach of winter. It is a mistake to leave this operation until the dark short days arrive.

Greenhouse Rhododendrons.—These useful plants are very subject to thrips, and if any exist upon them the insects should be eradicated at once, or the bold fine foliage will soon be destroyed. The solution advised for Azaleas will do very well. Where the plants have been grown fully exposed to the sun their wood will be firm, and the flower buds swelling rapidly. Keep the plants moist at the roots and syringe them freely. This treatment will not induce them to start into growth again after the flower buds have formed. One of the most

useful of this class is Princess Royal, which will yield its choice pink flowers over a period of six months.

Epacris.—Expose these to full sunshine, and protect them, if grown in frames, from heavy autumn rains. The lights should be thrown off whenever the weather is favourable. When the plants are housed stand them on ashes, give plenty of air, and syringe freely.

Heaths.—Softwooded kinds will be forming their flower buds, and on no account should they be allowed to become dry at their roots. If this takes place the flower buds may fail to come forward. Unless abundance of air is given *Erica autumnalis* is very liable to be attacked by mildew. During dull, damp weather watch for mildew on the different hardwooded varieties. At this season it need not be feared if abundance of air is given, except during spells of dull, damp weather. Those that have finished their growth may be tied and restaked if they need it, while those that are still growing must be left until later in the season.

Mignonette.—The last sowing should be made in 5-inch pots for spring flowering. Those sown some time ago and large enough should be liberally thinned. Too many plants should not be left in each pot, or they will grow weakly during the winter. Keep the blooms removed from those that are to flower when outside supplies fail. Do not allow the plants to become dry, and give them abundance of air.

Cyclamens.—These may still be repotted if they have not already been placed in the flowering size. If the plants to be repotted are throwing up flowers they should be removed. Sow seed in heat for next season's supply of plants. Late-sown plants established in thumbs may be placed into 3-inch pots. Grow the plants fully exposed to the sun. Give air liberally to insure sturdy growth.

THE BEE-KEEPER.

APIARIAN NOTES.

THE PUNIC BEE CONTROVERSY.

MR. T. W. COWAN threatens us with an action for libel because his name has appeared in articles on Punic bees, which bees he has publicly condemned both in this country and America. On requesting Mr. Cowan to specify the articles to which he objects, he refers us to "those from 'A Hallamshire Bee-keeper' and 'A Lanarkshire Bee-keeper' since the beginning of this year," so that, from his point of view, the whole of those articles are libellous. That is not our opinion, or they would not have been published. Both those writers have had experience with the so-called Punic bees. We have had no such experience, and have therefore neither condemned nor recommended them; and it is obviously requisite that the experience of persons should be published who have found the bees valuable or the reverse, with the grounds on which such experience is based, in order that the public may be able to form their conclusions on the subject. We have not suppressed any matter that has been sent to us in which these bees have been adversely referred to. Mr. Cowan thinks it right to condemn the bees, and to that we have not the slightest objection, but it surely follows that others who keep these bees have an equal right to defend them if they feel justified in doing so. We are ready to publish further experience on these bees, whether it is in their favour or not.

BEES AT THE HEATHER.

WE have reached the 9th of September, and for a month past one fine day is all our bees have had. For two days we have experienced a calm, the first time for several months. The Heather being late is still in good bloom; but sunshine is so rare, and the moisture in the earth and the atmosphere is so great, that with the low temperature little or no honey is secreted in the flowers. If fine weather would continue for a few days the bees might still, although out of season, gather a fair quantity of honey.

A BRIEF REVIEW OF THE SEASON.

The early spring was extremely ungenial. The first week in April was quite spring-like, but after that the weather was of an arctic character, being bitterly cold but dry. The first week in May was a slight improvement, giving promise of better times; but on the 7th of that month a change for the worse took place, and from then till now there have been only three genuine bee days for full working. Young queens hatched early in June did not show young bees till the 7th day of September.

The greatest flood in the memory of man fell on the evening and morning of the 28th and 29th of August respectively, and this was followed by a frost of 15° on the first mentioned day. On the 2nd of September snow and hail lay to a depth of 3 inches several miles above my bees, and on the following day the hills were white. My bees suffered little or no damage

from the flood, but a quarter of an inch more rain would have swept them off with the torrent. The stands were nearly a foot in water, all the moveable pieces were swept away, a wire fence close to them was forced out, coils of hay that stood more than a third of a mile distant were washed against them, and the mountain torrents blocked the roads in many places with heavy *débris*. I should like to ask our meteorologists to favour us with proper data on which the published decision is founded that this has been "the mildest season since 1876." I hope their instruments are not all kept near their bedrooms as some I know are. Scientific instruments should be isolated at least six miles from any town. I fail to see that there can be at thirty miles apart 10° difference of the temperature with accurate instruments; but we all want information. I do not expect to be much longer at the Heather, as we rarely see the sun.—A LANARKSHIRE BEE-KEEPER.

APICULTURAL ITEMS.

As an instance of how people may be led away by reading what has been said against me, I will give the following occurrence:—During the past season I sent Mr. John G. Kirsten, of Southborough, near Tunbridge Wells, eighteen virgin Punics, thirteen being all in one week. I supplied him with virgin queens in 1891 and 1890, so it may fairly be assumed that we ought to know each other. On August 7th he wrote to say that only five queens were laying, five more had left brood and disappeared, six more had neither queen nor brood, and two had gone, bees and queen, being a loss of thirteen queens out of eighteen. He described the transaction as "most unsatisfactory," and hoped I would "show by deeds" that I would bear out the contents of my statements and make good the loss, and much more in the same tone. Of course, I resented the tone of such a letter, and told him plainly and distinctly that it would be time to write such a letter when I had refused to make the loss good, as per my advertised guarantees, and not before; that I was ready to accept his word without question, that the five with brood and no queens would be found all right, and probably the six also, if he would test them. This he did, and then wrote me on August 11th saying, "To my great surprise you are quite right in what you said on the 8th of August. My loss really now amounts to four queens;" and then he asks the favour of letting them stand over to 1893. I enclose you, Sir, the two letters just to see the difference between them. [Received.—ED.] I mention this case, because it is an illustration of my twenty-five years' experience of average Britons. In my business dealings with them I find they are liable to make mistakes, but show them their error and they frankly admit it at once.

The other day I received a post card from Dr. C. C. Millar, Marengo, Ill., U.S.A., to say that two virgin Punics I sent him had arrived safely, only one worker being dead, were safely introduced, and were laying well, having duly mated. These two queens were seven days old when sent off, the package containing the two when ready to post was only 1½ oz. and it would be about twelve days on its journey. I mention this, because it is now four years since I claimed to have solved the problem of being able to introduce aged virgin queens safely, and thus open up a cheap and ready means of spreading "new blood;" also that I had solved the wintering problem, claiming that what is called "winter dysentery," was solely the result of breeding the queens in an imperfect manner. It was solely to demonstrate in a convincing manner that I began breeding and selling virgin queens, with what success all know who read this *Journal*, but in another quarter it has been insinuated that my queens are no better than others and that the winter problem still remains unsolved, in fact the greatest care is taken to prevent the public learning that what they had clamoured for as a most desirable thing for a generation, is at last within their reach. How far I have succeeded may be judged by the following: Up to the present no case of winter dysentery has been reported or claim made on my guarantee, and not more than six cases of unexplained failure to introduce the queens; there is not one failure of any kind reported this season, although the majority were novices, and none had ever introduced virgins. The losses have been in the mating, but this has been light, four from Kent and one from Ireland this season, so that my system of rearing and introducing virgin queens is an unqualified success and no longer theory. I have been able to make an equally valuable discovery in rearing and mating fertile queens, and next season I hope to let the public have the chance of benefiting by it.

Speaking from memory I have sent lots of queens to Lockerbie, but cannot say without referring. I do not think they would be pure Punics "A. L. B. K." mentions, but the result of a hybrid queen mating to pure Punic-drone, being three-quarter Punic and quarter native.—A HALLAMSHIRE BEE-KEEPER.



* * All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Pink Bedding Zonal Pelargonium (*J. L.*).—We do not remember seeing the variety you name; but if you write to Mr. Coppin, the Superintendent at Battersea Park, he may be able to give you some information. We have seen Mrs. Turner effectively employed in the parks, and Beckwith's Pink is highly recommended by Mr. Cannell.

Notching Vine Roots (*W. J.*).—If Vine roots are notched now, and a gritty compost, consisting of turfy loam and a large admixture of wood ashes, be placed round them they will form fresh roots this season; at least that is what we found in the case of some Vines that were improved by that process. Old Vines, such as you describe, and which cannot be lifted, usually bear better by training young rods very thinly in the summer, and not cutting them back closely at the winter's pruning.

The Keswick Codlin Apple (*Keswick*).—This useful Apple was not raised at Keswick, but was first discovered growing among a quantity of rubbish behind a wall at Gleaston Castle, near Ulverstone, and was first brought into notice by one John Sander, a nurseryman at Keswick, who, having propagated it, sent it out under the name of Keswick Codlin. In the *Memoirs of the Caledonian Horticultural Society*, 1813, Sir John Sinclair, says:—"The Keswick Codlin tree has never failed to bear a crop since it was planted in the episcopal garden at Rose Castle, Carlisle, twenty years ago. It is an Apple of fine tartness and flavour, and may be used early in autumn. The tree is a very copious bearer, and the fruit is of good size, considerably larger than the Carlisle Codlin. It flourishes best in a strong soil."

Green Gage Plums Gummed (*S. C.*).—It is generally the result of a deficiency of calcareous matter in the soil, but not always, as we have seen it occur when there has been a very vigorous growth followed by a large reduction of foliage. We think, however, in your case that it is caused by a deficiency of calcareous matter. In the autumn we should give a dressing of quicklime at the rate of a bushel per rod (30¼ square yards), and point it in with a fork as deeply as can be done without injury to the roots, mixing it with the top 9 inches or a foot of the soil. A better plan would be to get some old mortar rubbish, breaking it small, and picking out any pieces of lath or wood; and removing the soil down to the roots, picking some from amongst them and giving fresh to which has been added a sixth of the mortar rubbish. If the roots are deep they should be raised, bringing them up so that the topmost are not deeper than 3 or 4 inches when covered with soil, which also should contain the lime rubbish. Make the soil firm about the roots, and mulch the surface with short littery manure.

Orchids Spotted (*T. F.*).—The spot of which you complain is often brought about by the soil at the roots of the plants having become sour. It is also due to too much water at the roots of the plants and in the atmosphere. Nothing will cause the plants to become spotted sooner than a close saturated atmosphere. The temperature appears to have been high enough. A low temperature when the house is too moist would very soon bring about this state of things. We advise you to keep a drier atmosphere, and the plants slightly drier at their roots, also provide a circulation of air daily when the weather is genial; at the same time you must avoid cold draughts, for they are detrimental. If the soil is not sour at the roots, and you follow the directions given, the plants may be grown out of the spot another year. If the soil is sour repot the plants at once, remove carefully the old material and wash the roots in tepid water, then place them amongst fresh soil. Water must be applied with great care after potting until they commence growing and rooting in spring. When the air in the house holds the greatest possible amount of aqueous vapour in suspension, or, in other words, when it is fully charged with moisture, the two thermometers on the hygrometer will stand at the same level; but as the amount of moisture decreases the wet bulb thermometer will sink, and the greater the dryness of the atmosphere the greater will be the difference between the two thermometers. During the day, if the dry-bulb thermometer

stands at say 76°, the wet-bulb thermometer should be about 69°, and at night if the dry thermometer registers 70°, the wet one should be about 66°. These figures are given as examples, but they will be found to vary considerably with the different changes of temperature and seasons.

Forcing Choice Fruit, Flowers, and Tomatoes for Profit (*Inquirer*).—Many kinds of fruits, flowers, and vegetables are forced profitably by those having a thorough knowledge of the business, gained from experience in establishments where the produce is disposed of in the markets. Some persons, however, are very successful who have little cultural knowledge but good business aptitude, by engaging a competent working foreman, well skilled in the economy of labour and the production of goods that meet a ready sale and bring the best prices, by their excellence and the manner in which they are packed or presented. Then the capitalist has merely to superintend the strictly business side, and avoid speculations that are often disastrous. With a knowledge gained by paying a premium, as you suggest, you may or may not acquire sufficient insight to grow the crops determined upon so as to be fairly remunerative. We have not much faith in premiums, however, though they are sometimes useful, and in some cases essential, in gaining access to places where opportunities of becoming acquainted with special modes of culture are afforded. By all means acquire such knowledge by serving a time in not one only, but in two or three establishments, say a year or more in each, before commencing on your own account, and then we advise very thoughtful action, as profits are becoming less through increased and increasing home and foreign competition. If, after three years' experience in large establishments, you find you have sufficient aptitude and business capacity to engage with confidence in the undertaking, and can clearly see your way to make it fairly remunerative, we do not see why you should not succeed well with a capital of £1000. There is another expedient—namely, become a partner with a person who has everything but capital essential to enlarging a business and making it a success.

Pear Tree Leaves Blistered (*Subscriber*).—The leaves are severely infested with the Pear-leaf gall mite (*Phytoptus pyrinum*), which is invisible to the naked eye, and only just made visible by a good pocket lens. Under a powerful microscope the mite is a very interesting creature, with a long, slender, white body, two pairs of very short legs near the head, which is pale flesh in colour, and ends in a kind of conical projection containing the fine sword-shaped jaws, fitting on each other like scissor-blades, and with these and other very small mouth-apparatus the mite feeds on the tissues of the Pear leaves. The effect is that these leaves are very much injured, blistered spots resulting; these spots become brown or black, and are then very conspicuous, as in your case, by the depressed tufts, which were formerly believed to be caused by fungi (*Erineum*), but this has proved to be only hairs caused by the irritation of the mites. If the under side of the leaf is carefully examined a small hole will be found about the middle of each discoloured spot, giving passage to the mites to and from the interior of the leaf. By closely examining the blisters we found some excessively small white eggs with the mites emerging, also many shells of irregular shape from which the mites had hatched out. There were many dead mites in the blisters, and several alive near the blisters on the under side of the leaves; these mites are less than 1-200 inch in length and 1-800 inch in breadth at the widest part. They were very active for a few minutes, moving about on the green parts of the leaves, but soon died, evidently perishing in the endeavour to bore or cut into the green parts of the leaves, and so find the food they were deprived of in the blisters by the drying of the tissues. We advise syringing the trees infested with a sulphur solution made by slaking 3 lbs. of quicklime in an iron copper, adding 2 lbs. of flowers of sulphur and 3 gallons of water, besides that used in slaking the lime. Mix and boil for a quarter of an hour, keeping stirred all the time. Allow the mixture to settle, and when cool pour off the clear liquid, place in stone bottles, and keep well corked in a dark place. Use a pint of the bi-sulphide of calcium, as the liquor is called, to 4 gallons of water, applying with a syringe or garden engine, wetting every part of the leaves, particularly the under side. The application should be made without delay, and it may be repeated before the leaves are all down. Collect all the leaves as they fall and burn them, and when all are down remove the surface soil—the slightest skimming, with any leaves that remain, and burn it, supplying fresh soil in its place. As a preventive the trees may be syringed in spring, when the first leaves are about full-sized, with the following solution:—Dissolve 8 ozs. of softsoap in 4 gallons of boiling water, pour the soap solution on 1 lb. of sulphate of lime, keeping well stirred whilst the solution is slowly poured on, and when mixed and cooled to 90° apply to the trees so as to wet them in every part. Repeat early in June.

Names of Fruits.—*Notice.*—Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. (*G. M. Gerahty*).—Worcester Pearmain, one of the most handsome and useful autumn dessert Apples for market. (*T. D.*).—1, Kerry Pippin; 2, Grenadier; 3, Irish Peach; 4, Duchess of Oldenburg. (*J. J. C.*).—On a first glance we thought the Plum was the Red Magnum

Bonum, but on more closely examining the fruit we find the variety is a clingstone, and therefore conclude it is Pond's Seedling. (*W. M. B.*).—1, Bedfordshire Foundling; 2, Greenup's Pippin; 3, Herefordshire Beeding.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*W. W.*).—*Leycesteria formosa*. (*R. J.*).—1, Is a *Rudbeckia*, perhaps *laevigata*, but you do not mention the height; 2, *Agrostemma coronaria*; 3, *Sidalcea candida*; 4, *Achillea Ptarmica* fl. pl.; 5, *Episcia* (formerly *Cyrtodeira*) *fulgida*.

TRADE CATALOGUES RECEIVED.

Messrs. Cannell & Sons, Swanley.—*Plants, Roses, and Fruit Trees.*

Messrs. Krelage & Son, Haarlem, Holland.—*Bulbs.*

Mr. G. Phippen, Reading.—*Bulbs.*

Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, London, N.—*Carnations, Picotees, Pæonies, Bulbs, and Hardy Perennials.*

COVENT GARDEN MARKET.—SEPTEMBER 14TH.

MARKET very flat indeed, with prices much depressed.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, half sieve	1	0	to	3	Oranges, per 100	4	0	to	9
Grapes, per lb.	0	6	1	6	Peaches, per dozen	2	0	6	0
Filberts, Kent, per lb. ..	0	8	0	9	Plums, per half sieve ..	2	0	4	0
Lemons, case	15	0	35	0	St. Michael Pines, each ..	3	0	6	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beans, Kidney, per lb. ..	0	2	to	0	Mustard and Cress, punnet	0	2	to	0
Beet, Red, dozen	1	0	0	0	Onions, bunch	0	3	0	5
Carrots, bunch	0	4	0	0	Parsley, dozen bunches ..	2	0	3	0
Cauliflowers, dozen	2	0	3	0	Parsnips, dozen	1	0	0	0
Celery, bundle	1	0	1	3	Potatoes, per cwt.	2	0	5	0
Coleworts, dozen bunches	2	0	4	0	Salsafy, bundle	1	0	1	6
Cucumbers, dozen	1	6	3	6	Scorzoneria, bundle	1	6	0	0
Endive, dozen	1	3	1	6	Seakale, per basket	0	0	0	0
Herbs, bunch	0	3	0	0	Shallots, per lb.	0	3	0	0
Leeks, bunch	0	2	0	0	Spinach, bushel	3	0	3	6
Lettuce, dozen	0	9	1	0	Tomatoes, per lb.	0	2	0	4
Mushrooms, punnet	0	9	1	0	Turnips, bunch	0	3	0	4

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	2	0	to	4	Mignonette, 12 bunches ..	1	0	to	3
Asters, English, doz. bunches	2	0	6	0	Myosotis or Forget-me-not,				
Bouvardias, bunch	0	6	1	0	dozen bunches	2	0	3	0
Carnations, 12 blooms ..	0	6	2	0	Orchids, per dozen blooms	2	0	8	0
Carnations, dozen bunches	4	0	6	0	Pansies, dozen bunches ..	1	0	2	0
Cornflower, dozen bunches	1	6	3	0	Pelargoniums, 12 bunches	4	0	6	0
Chrysanthemums, dozen					„ scarlet, 12 bunches	3	0	4	0
blooms	1	0	2	6	Poppies (var.), doz. bunch	1	0	4	0
Chrysanthemums, dozen					Primula (double) 12 sprays	0	6	0	9
bunches	6	0	12	0	Pyrethrum doz. bunches ..	3	0	6	0
Eucharis, dozen	1	0	3	0	Roses (indoor), dozen ..	0	9	2	0
Fuchsias, per bunch	0	6	1	0	„ (outdoor), doz. bunch.	2	0	6	0
Gardenias, per dozen ..	2	0	4	0	„ Red, per doz. blooms ..	1	0	2	0
Gladioli (various) 12 sprays	1	0	2	0	„ Tea, white, dozen ..	0	6	2	0
Lavender, doz. bunches ..	4	0	6	0	„ Yellow, dozen	2	0	4	0
Lilium longiflorum 12					Stocks, dozen bunches ..	3	0	5	0
blooms	2	0	4	0	Sunflower, doz. bunches ..	2	0	6	0
Lilium (var.) doz. blooms	0	6	2	0	Sweet Sultan, doz. bunches	2	0	3	0
Maidenhair Fern, doz. bchs.	4	0	6	0	Sweet Peas, dozen bunches	1	0	3	0
Marguerites, 12 bunches ..	2	0	4	0	Tuberose, 12 blooms	0	3	0	6

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (golden) dozen	6	0	to	12	Geraniums, Ivy	4	0	to	6
Begonia, per dozen	6	0	12	0	Hydrangea, per dozen ..	9	0	15	0
Chrysanthemums, per doz.	6	0	9	0	Lobelia, per dozen	3	0	6	0
„ large plants, each	1	0	3	0	Lycopodiums, per dozen	3	0	4	0
Cupressus, large plants, each	2	0	5	0	Marguerite Daisy, dozen ..	6	0	12	0
Dracæna terminalis, dozen	18	0	42	0	Mignonette, per dozen ..	4	0	6	0
„ viridis, dozen	9	0	24	0	Myrtles, dozen	6	0	9	0
Euonymus, var., dozen ..	6	0	18	0	Palms, in var., each	1	0	15	0
Evergreens, in var., dozen	6	0	24	0	„ (specimens)	21	0	63	0
Ferns, in variety, dozen ..	4	0	18	0	Pelargoniums, scarlet, doz.	2	0	4	0
„ (small) per hundred	6	0	8	0	per dozen	6	0	12	0
Ficus elastica, each	1	6	5	0	Tropæolum or Nasturtiums				
Foliage plants, var., each	2	0	10	0	per dozen	3	0	4	0
Fuchsia, per dozen	3	0	6	0					



SHELTER.

AUTUMN comes on swiftly now, the nights are colder, with heavy dew, there is a suspicion of frost in the raw morning air, the valleys are shut in by mists which vanish slowly before the rising sun, and gusty winds sweep before them the sere and yellow leaves of the Elms, which this year began falling before

the end of August. These are some of the signs which tell us quite as plainly as bare stubbles do that autumn is at hand. There are others, too, of equal significance and of greater importance demanding heedful and prompt attention. A turn among the live stock after darkness has fallen shows us that however calm the night may be cattle and horses have gone to the warm side of any available hedge, tree clump, or building for shelter, and sheep are clustering upon some knoll or upon the hard dry surface of a drive. The sheep are lying down, but if the land is wet and cold the cattle and horses are standing about, thus plainly showing a want which we do well to supply.

That very much harm is done to live stock by a want of proper shelter in early autumn there can be no doubt. It is then that colds and rheumatism so frequently lay hold of valuable animals, hoose becomes rampant among calves, there is much coughing among sheep, fluke appears if the flock is kept on low damp ground, and horses and cattle fall off in condition—all of which tend to show the importance of preventive measures, of giving the provision of shelter that position in our practice which is so clearly to our advantage. Depend upon it not half enough attention is paid to the maintenance of health in animals of the farm. It is not a mere question of feeding. However nourishing may be the food it alone will not serve our purpose; shelter from wind and rain must always be accessible to the stock. A common mistake at this season of the year is the leaving of horses and cows out at night as long as they can bear it with apparent impunity. It is far better to turn them into yards with an ample provision of deep open lodges or hovels at night after the end of August. With full crops of second growth of Clover and of green Maize there is plenty of rack food for consumption in the yards, stress upon pastures is lessened, the animals are better for the mixed diet as well as for the shelter, and they are under much closer observation than is possible when they are left entirely in the open.

The sight of sleek, marsh f d beasts, just now at their best, may very naturally give rise to a question if after all yards and hovels are required so early in the season. Such beasts, be it remembered, have been summered on marsh or other good grazing land to come off ripe for the butcher in autumn. Even with them it is found dangerous to continue grazing late into October, many a fine beast being lost outright from exposure then on an open marsh devoid of hedges or shelter of any sort. They are withdrawn early; so, too, are marsh-bred lambs. Big sturdy animals as they are, they cannot bear the cold damp situation in winter, but are all driven to uplands, often a long distance off, till the following Ladyday.

Ewes folded now with the tups on Mustard or early Turnips have precisely the firm hard surface to lie down upon of which they are so fond, and the daily allowance of corn or cake which they have in the tup folds is conducive to high condition and health. November and December are regarded as dangerous months for them, because serious losses of ewes and abortion so frequently occur then, simply because they are folded upon Turnips, and are kept constantly standing in mud, often so deep that they move about in it with much difficulty. The cold watery diet lowers the temperature of the body to a serious—often fatal—degree, and the strain of walking in mud, out of which the legs are only withdrawn with much difficulty, is very trying. Clearly the ewes ought not to be exposed to it at any time, still less so when they are heavy with lamb.

It is probably owing to the inclement climate of Scotland that the provision of shelter at Scotch farms is so superior to that of many English farms. Yet one of the first requirements of North British farmers when they come south is for more buildings, which they evidently regard as indispensable for shelter apart from any question of mere temperature. They are right; and he is a wise landlord who affords his tenants an ample provision of means of shelter, both at the homestead

and out upon the different pasture enclosures. In dealing with this matter we treat every case upon the broad basis of general utility, paying very little heed to individual fancies. That is the only safe way to avoid annoyance and waste. Each farm must be treated upon its merits, and sufficient provision of shelter made for the head of stock it is calculated to carry, the buildings being so placed as to be accessible and convenient for use. Beyond this it is unwise to go, and we make a point of never asking a landlord to spend a penny more than is absolutely necessary. On the other hand, all possible pains must be taken to show cause for the due provision of enough shelter buildings, and to insist upon the point in the mutual interests of landlord and tenant.

Tenants are wont to ask too much, landlords to concede too little. It is for the agent to point out the happy mean which shall improve the value of the property for the one, and render the holding more useful for the other.

WORK ON THE HOME FARM.

Since writing our last note we have travelled some hundreds of miles through land set thick with corn in sheaves, but the weather was not at all favourable for carting it to the stacks, and September came in with very few cleared stubbles except along the south coast. During the first three days of the month the weather was very unsettled, yet the rain did no harm to Wheat in well built shocks, while it improved the Barley wonderfully, plumping the grain without staining it, for most of the straw is erect. With fine weather now much good work will be done, and the bulk of the corn in East Anglia and the midlands should be got together quickly.

We saw a field of Oats on a heavy land farm sadly mismanaged. The corn was foul with a thick strong growth of weeds. It was being reaped and tied up in sheaves with such a mass of weeds that severe heating in the stack and musty Oats were inevitable. In such a case the only safe plan was to mow into swathes and to turn and harvest like Clover hay. Even then, with fair weather, we should prefer threshing the Oats as they were carted, making straw and weeds into a stack of litter, for it could not be wholesome food, and was quite unfit for cutting up into chaff. Strongly as we approve of binding corn up in sheaves, in this instance it was decidedly wrong. But then the whole thing was a mistake, and it was quite clear that neither autumn tillage nor spring hoeing had any attention at that farm.

Northern farmers, groaning under the difficulties of another wet season, may be surprised to hear that the few days' rain in the midst of harvest were most welcome to midland and southern farmers; the soil on some farms having become so hard from drought that using anything like a skim-coulter was out of the question, and even ploughing was difficult. Implements now work freely in the moistened soil, and the weed seeds germinate quickly, very shallow stirring, just sufficient in fact to mix the fallen seeds with the surface soil being followed by speedy growth, which will destroy a host of annual weeds that otherwise would require hand-hoeing among the corn next spring.

Winter Vetches should now be sown, and it is a good plan to make other sowings early in October, and again late in that month, for this is a most useful green crop, either for mowing for cattle and horses, or for folding with sheep. Winter Oats may be mixed with it if cared for; but we prefer the Vetches alone. Drill in the same manure as for winter corn to obtain a full crop, which is most profitable, and may be turned to account in a variety of ways.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

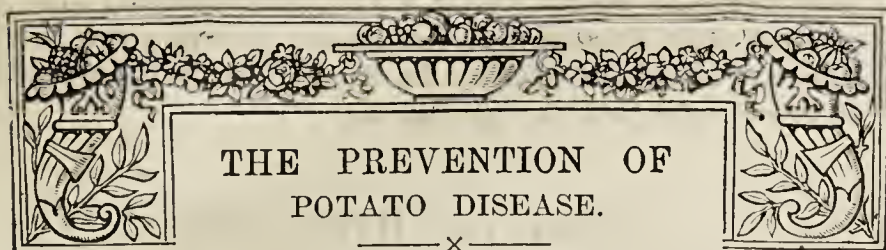
Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1892. September.		Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.
Sunday	.. 4	30.070	55.0	48.5	N.E.	57.2	62.0	47.1	110.9	43.0	—
Monday	.. 5	30.354	54.2	46.5	N.E.	56.6	62.9	38.6	101.7	32.0	—
Tuesday	.. 6	30.334	55.9	52.0	S.W.	55.9	66.6	43.1	109.2	36.0	—
Wednesday	7	30.124	58.9	52.2	S.W.	55.9	60.7	45.9	87.1	37.1	0.114
Thursday	.. 8	30.092	53.3	48.1	N.	55.1	63.4	43.8	109.2	38.8	—
Friday	.. 9	29.997	54.7	50.3	S.W.	55.0	64.3	42.1	92.9	35.6	—
Saturday	.. 10	30.051	60.1	56.7	S.W.	55.8	65.6	55.7	80.2	51.9	0.020
		30.146	56.0	50.6		55.9	63.6	45.2	98.7	39.2	0.134

REMARKS.

- 4th.—Fine and sunny throughout.
5th.—Fine sunny day; misty evening.
6th.—Misty early; sunny morning, with occasional cloud; overcast after noon.
7th.—Generally overcast in morning, wet after noon.
8th.—Bright and sunny throughout.
9th.—Cloudy morning; overcast afternoon and evening.
10th.—Overcast all day; rain in evening.

A pleasant, seasonable week, but temperature a little below the average.—
G. J. SYMONS.



THE PREVENTION OF POTATO DISEASE.

WE have received a carefully prepared and, we believe, thoroughly accurate record of experiments in the prevention of the Potato disease, which can scarcely fail to be of wide interest, and our readers can draw their own deductions from the facts set forth. As will be seen, the varieties of Potatoes are those in general cultivation, and are not restricted to Messrs. Carter's specialities. They embrace early, midseason, and late sorts, the object in view being to have a trial as fair as a trial could be, conducted entirely by Mr. H. F. Moore, Editor of the "Mark Lane Express" and "Bell's Weekly Messenger." Mr. Moore, having had experience in France in combating the Potato disease, determined to follow with precision the practice of his friend M. Aimé Girard. Though a drenching rain occurred three days after the dressing was applied it did not wash off the mixture, as it was apparent enough when we examined the plots ten days subsequently. At that time there was no disease, and the dressing appeared to have appreciably arrested the growth of the plants, therefore the non-dressed plots looked rather the better of the two.

It began to be feared that labour and material had been wasted, but the heavy rain on August 27th and 28th was followed by a decided outbreak of the murrain. The tops on the undressed plots speedily collapsed, while on the dressed plots they continued growing. This prolonged growth had the happy result of both increasing the total yield of the produce and diminishing the extent of the disease. This is clearly shown by the figure on page 263, and the difference was even more striking when the crops were examined on the ground. On the undressed plots they were in large unsightly heaps; on the dressed plots, a mere handful in comparison, or to be exact, 11 lbs. against 6 cwt. 3 qrs. 11 lbs. The total gain in sound produce is at the rate of nearly or quite 2 tons per acre, the actual gain on less than half an acre being 18 cwt. 19 qrs. 18 lbs. The cost of the dressing, including material and labour, was at the rate of £1 an acre, therefore the investment proved decidedly profitable.

RECORD OF EXPERIMENTS.

For six years past the French Government have been making experiments, under the direction of Dr. Aimé Girard, in order to test the value of the Bouillie Bordelaise as a preventive of the dreaded Potato disease (*Phytophthora infestans*), and in the early part of last year that distinguished chemist was able to report that the results year after year had been so satisfactory that the mixture might with confidence be recommended as a preventive of the disease. Since then a number of experiments have been made not only in other countries of Continental Europe, but also in the United Kingdom, with varied results, and this year Messrs. James Carter & Co., the well-known seed firm, of 237 and 238, High Holborn, London, W.C., decided to devote an acre of land on one of their seed farms at Bromley, in Kent, to an experiment, and further, that it should be conducted on identically the same lines as those on the French Government Farm at Joinville-le-Pont. The direction was put in the hands of Mr. Henry F. Moore, the well-known agricultural writer, who consulted M. Girard, in order that the chemicals used might be of the same strength and quality as those used in France.

The experiment was made on a field of a little less than an acre of Potatoes, which were planted in ten long double rows on April 8th, the drills being 36 inches apart, a distance which Messrs. Carter believe will be found more remunerative than if planted more thickly, as it permits the rays of the sun to penetrate the bed,

an important factor in the development of this crop. The varieties planed were as follows:—

- | | |
|------------|------------------------------------|
| Row No. 1. | Myatt's Ashleaf. |
| " " | 2.—Snowdrop. |
| " " | 3.—Beauty of Hebron. |
| " " | 4.—White Elephant. |
| " " | 5.—Carter's King of the Russets. |
| " " | 6.—Carter's Cosmopolitan. |
| " " | 7.—Carter's Improved Magnum Bonum. |
| " " | 8.—Bruce. |
| " " | 9.—Carter's Surprise. |
| " " | 10.—Imperator. |

The whole piece was divided into four equal parts, of which the first and third were dressed with the Bouillie Bordelaise, and the second and fourth left undressed. The strength of the mixture was as follows:—

22 lb. of sulphate of copper,
22 lb. of unslaked lime, and
100 gallons of water;

this being the quantity necessary for an acre of Potatoes. The sulphate of copper is of 98 per cent. purity, and is the Macclesfield patent sulphate of copper, this being the same as that used by M. Aimé Girard in his experiments. For the purposes of the experiment the first and third quarter were dressed with the Bouillie Bordelaise on July 11th and August 2nd, and the second and fourth left undressed. The mixture was applied by the Antipest, the new knapsack distributor, invented by Mr. G. F. Strawson, which did the work admirably. On the second occasion, a German machine was also tried, this also doing good work.

During the period of the experiment the weather has been as follows:—

APRIL 8TH TO 30TH.—Rainfall: 1.50 inch (on ten days). The rain fell on continuous days from 24-25th to 28-29th (0.55 inch).

Frost was registered on thirteen occasions from April 10th to 30th, in intensity ranging from 1° to 7°.

Severe snowstorm 1 A.M. to 8 A.M. April 16th.

MAY.—Rainfall 1.46 inch (on ten days). Very little rain (0.21 inch on eight days) until after the 24-25th; and on the 25-26th there was registered 0.97 inch.

Frost registered on May 1st (5°), May 7th (4°).

JUNE.—Rainfall 2.64 inches (on fourteen days). Thunderstorm 28th 8.30 P.M. to 11 P.M. Thermometer, lowest, 35°; highest, 98°.

JULY.—Rainfall 2.53 inches (on eight days). Very severe thunderstorm on the 14th, 10.15 A.M. and 12.30 midday, when 0.90 inch of rain fell. Thermometer, lowest, 39°; highest 90°.

AUGUST.—Rainfall 3.35 inches (on sixteen days); the heaviest fall was 27-28th, 0.98 inch. Thermometer, lowest, 38°; highest, 98°.

SEPTEMBER 1ST TO 14TH.—Rainfall 0.57 inch (on seven days). Thermometer, lowest, 35°; highest, 83°.

Early in this month (September) it was clear that disease had appeared in the undressed portions, and on September 6th one root was dug from the centre of one row of each variety in the first three sections. In the dressed sections only two diseased tubers were found in the twenty roots dug, and those were in the one root of Myatt's Ashleaf. On the other hand, of the ten roots dug in the section not dressed, in four cases all the produce was found to be diseased, in two cases slightly diseased, in one case very slightly diseased, and in only three cases—The Bruce, Carter's Surprise, and Imperator (vigorous growers)—was the produce found to be all sound. In other words, 90 per cent. in one of the dressed sections and 100 per cent. in the other dressed section were found to be all sound and good produce, and in the case of the undressed section only 30 per cent. were sound.

On Thursday and Friday last the crops were dug, when the following were found to be the condition and weights of the different varieties of Potatoes on the four quarter plots:—

FIRST QUARTER PLOT.—DRESSED.

Row and variety.	Weight of sound tubers			Weight of diseased tubers.			Total.		
	cwt.	qr.	lb.	cwt.	qr.	lb.	cwt.	qr.	lb.
1. Myatt's	3	1	5	—	—	1½	3	1	6½
2. Snowdrop	2	2	12	—	—	1¾	2	2	13¾
3. Beauty of Hebron ...	2	3	18	—	—	2½	2	3	20½
4. White Elephant	3	2	19	—	—	2	3	2	21
5. King of the Russets...	3	3	14	none			3	3	14
6. Cosmopolitan	2	2	7	—	—	0½	2	2	7½
7. Magnum Bonum	3	2	19	none			3	2	19
8. The Bruce	4	0	0	none			4	0	0
9. Carter's Surprise	3	2	10	none			3	2	10
10. Imperator	4	3	10	none			4	3	10
Totals	35	0	2	—	—	8¼	35	0	10¼

SECOND QUARTER PLOT.—UNDRESSED.

Row and variety.	Weight of sound tubers.	Weight of diseased tubers.	Total.
	cwt. qr. lb.	cwt. qr. lb.	cwt. qr. lb.
1. Myatt's	1 2 17	— 3 25	2 2 14
2. Snowdrop	1 3 10	— 1 21	2 1 3
3. Beauty of Hebron ...	2 0 10	— 1 12	2 1 22
4. White Elephant	2 0 25	— 3 21	3 0 18
5. King of the Russets...	3 2 5	— — 12	3 2 17
6. Cosmopolitan	2 0 0	— 1 7	2 1 7
7. Magnum Bonum	3 0 21	— — 5	3 0 26
8. The Bruce.....	3 2 0	— — 7	3 2 7
9. Carters' Surprise	2 1 10	— — 25	2 2 7
10. Emperor	3 2 23	— — 16	3 3 11
Totals	26 0 9	3 2 11	29 2 10

THIRD QUARTER PLOT.—DRESSED.

Row and Variety.	Weight of sound tubers.	Weight of diseased tubers.	Total.
	cwt. qr. lb.	cwt. qr. lb.	cwt. qr. lb.
1. Myatt's	1 1 13	— — 0 $\frac{1}{4}$	1 1 13 $\frac{1}{4}$
2. Snowdrop	1 1 21	— — 0 $\frac{1}{2}$	1 1 21 $\frac{1}{2}$
3. Beauty of Hebron ...	1 3 12	— — 1 $\frac{3}{4}$	1 3 13 $\frac{3}{4}$
4. White Elephant	2 3 17	— — 0	2 3 17
5. King of the Russets...	2 2 9	— — 0	2 2 9
6. Cosmopolitan	1 2 7	— — 0	1 2 7
7. Magnum Bonum	2 3 0	— — 0	2 3 0
8. The Bruce.....	3 0 23	— — 0	3 0 23
9. Carters' Surprise	2 2 0	— — 0	2 2 0
10. Emperor	2 3 8	— — 0 $\frac{1}{4}$	2 3 8 $\frac{1}{4}$
Totals	22 3 26	— — 2 $\frac{3}{4}$	23 0 0 $\frac{3}{4}$

FOURTH QUARTER PLOT.—UNDRESSED.

Row and Variety.	Weight of sound tubers.	Weight of diseased tubers.	Total.
	cwt. qr. lb.	cwt. qr. lb.	cwt. qr. lb.
1. Myatt's	0 3 14	— 1 14	1 1 0
2. Snowdrop	0 2 26	— 2 14	1 1 12
3. Beauty of Hebron ...	0 3 16	— 2 23	1 2 11
4. White Elephant	1 0 14	— 3 7	1 3 21
5. King of the Russets...	1 2 0	— 1 0	1 3 0
6. Cosmopolitan	0 3 5	— 1 0	1 0 5
7. Magnum Bonum	1 0 20	— 0 1	1 0 21
8. The Bruce.....	3 1 11	— 0 2	3 1 13
9. Carters' Surprise	1 1 0	— 0 14	1 1 14
10. Emperor	2 1 7	— 0 20	2 1 27
Totals	14 0 1	3 1 11	17 1 12

The following table gives the totals of the two duplicate experiments:—

	Dressed plots.	Undressed plots.	In favour of dressed plots.
	cwt. qr. lb.	cwt. qr. lb.	cwt. qr. lb.
Weight of sound tubers...	58 0 0	40 0 10	17 3 18
Weight of unsound tubers	— — 11	6 3 22	6 3 11
Total yield	58 0 11	47 0 4	11 0 7

It will thus be seen that in whatever aspect the experiment is looked at it is in favour of the dressing by the Bouillie Bordelaise. So far as sound tubers are concerned, the yield is over two tons per acre more than in the undressed portion (the two plots being less than half an acre), while the quality of the tubers is better.

On Friday last a large number of persons interested in the subject carefully examined the crops on the ground immediately the work of lifting and weighing was completed, and there was an unanimity of opinion that the trials were well planned, well carried out, and conclusively in favour of *Bouillie Bordelaise*, when properly prepared and applied, as an antidote of the Potato disease. Its effect on the plants is shown in the illustration from a photograph taken across the ground where the ends of the dressed and

undressed rows meet at the line of sticks. The difference is so striking, that—to cite the words of an old Potato grower who was prejudiced against the “doctoring”—“there is no getting away from it.” Messrs. Carter & Co. will presumably dress the whole of their Potatoes next year, except perhaps a few patches here and there for “taking the disease,” as they like making experiments for public enlightenment.

NOTES ON HYACINTHS.

At our spring exhibitions the Hyacinth is the chief source of attraction amongst bulbous plants. When staged in the best possible condition few plants can equal it for compactness and beauty.

Bulbs that are imported vary from three to five years of age. The very best should be the latter. Quantities that are annually sent to this country as fully developed bulbs would probably be better if grown for another season or two. Be this as it may, good bulbs are of the first importance if large spikes of fine flowers are to be produced. It must be remembered that the condition of the bulb at potting time has much to do with the success of any exhibitor. If a start is made with bulbs that are poorly grown, badly developed, and imperfectly ripened, however well they may be grown, the exhibitor has but a poor chance in competition with another who starts with roots of the first quality—that is, bulbs which have been grown to their full size and have been thoroughly developed and properly ripened.

How are we to distinguish good from inferior bulbs for this purpose? By what must we be guided in making a selection? Large bulbs are not always the best, therefore size is no criterion of development and solidity. Bulbs that are capable of producing fine spikes should be firm and solid; they should scarcely yield to the pressure of the thumb close to the crown, and should be heavy for their size. They can almost be judged by their weight. Bulbs secured from a reliable source, solidity, and weight are the points desirable. A small bulb is often heavier than a large one of the same variety. In the selection of bulbs some knowledge of the size they naturally attain should be possessed by those to whom the selection is left.

Intending exhibitors must not, however, be misled by supposing that the secret of gaining the post of honour in competition with others depends solely upon having first-class bulbs to commence with. This is not the case; however good the bulbs may be they need growing, and the most careful treatment during the season of growth. I am certain that a person with second-rate bulbs well grown would easily beat first quality bulbs grown in an inferior manner. Although large spikes and bells, combined with colour and freshness, go a long way, they do not always carry the exhibitor to a successful issue. They need all these qualities, and in addition should display at a glance that they have been grown well and staged at the exact time they are at their best. Some judges place considerable importance on the condition of the spike alone, but my contention is that the spike is only part of the plant to be judged. A well grown plant with a slightly inferior spike, as regards size, must of necessity often be placed before a poorly grown plant with a large spike. Those familiar with the culture of Hyacinths can detect almost at a glance whether an inferior spike is due to cultivation or to the condition of the bulb before it was potted.

What constitutes a well grown Hyacinth plant? It should be dwarf according to the variety; the flower spike should be stiff almost capable of supporting itself without a stake; the spike should be large, well lengthened out, with bold bells that furnish it without crowding. As the varieties differ widely in this respect, each should be judged according to its individual merits. The foliage should also be stiff with a dark healthy green appearance. It should reach to the base of the spike, or an inch or two above it, and the tips in many cases should bend out slightly. Every Hyacinth does not assume this habit, but the foliage is upright and inclined to arch towards the spike. When the point of every leaf is slightly turned outwards throughout a collection it may be safely inferred that they are not natural, but have been turned out by the exhibitor. In some cases the tips of two leaves only will turn outwards, in others four, and so on, while the remainder invariably stand upright. A good spike should be even all round from top to bottom, the base should be even, and the top of the spike well filled with well developed bells, which should be as even as possible throughout.

What concerns cultivators most is the methods of culture that should be followed throughout, in order to produce examples as near perfection as it is possible to grow them. In detailing these

I shall begin at the beginning, and dispose of each item of culture in rotation as far as is practicable. Some may think the potting of the bulbs is the first matter, but it is not. The intending grower should have on hand previous to potting a good stack of loam, which has been stacked for four or six months, and a heap of cow manure that has been stored sufficiently long in a shed to allow of its being rubbed through a fine sieve without the least trace of stickiness about it. I do not care for stacking the manure with the loam unless the latter is dry when it is stacked; if it is moist the manure adds to the evil, and the heap when cut into is the reverse of being as sweet as it should be. A good heap of refuse soil from the potting shed should also be reserved in readiness. This would consist of sandy soil from plants that had been grown for a limited period only in a rich compost. I am not in favour of using loam in a fresh state for Hyacinths; it must be remembered that their life is but a short one, and the fibre of the loam has not time to decay sufficiently to be of much use to the plant before the work for which it is grown has been accomplished. For years we found that Hyacinths did as well if not better in soil that had grown plants or a crop of fruit as in fresh loam; in fact we prefer the rich compost from various sources that accumulates, or can be accumulated in all gardens. This is passed through a sieve, and portions of crock or other rubbish removed. To this is added one-fourth of fresh loam, such as I have described, and one-seventh of cow manure as finely divided as possible. Hyacinths dislike manure in a practically fresh state. Sand should be added according to the texture of the loam and the amount of gritty material that may have been used in the old compost. Hyacinths like a rich and sandy soil, which is certain to remain sweet and is thoroughly porous. The compost when mixed up should be in an intermediate state for moisture, so that no water will be needed until the bulbs have grown and rooted sufficiently to be removed from the plunging material.

Five-inch pots are most suitable for single specimens; one good crock at the base is ample. Over this a thin layer of cow manure should be placed, the same as that advised to be mixed with the soil. I have said a thin layer, for too much would do more harm than good. The soil should be pressed moderately firm into the pots, and the crown of the bulb should be just level with the soil, which should be half an inch below the rim of the pot. Whether a pinch of sand should be placed just below the bulb is an open question. I have done it, and for years looked upon this time-honoured practice as a necessity. But of late years I have come to the conclusion that it is only a waste of time and of sand. I found no good to result from this practice, and consequently discontinued it.

When should the bulbs be potted? is a natural question to ask, and one that can only be answered in a general way. Much depends upon the time they are wanted for exhibiting. It is a mistake to keep them out of the soil until they display signs of growing, for then injury results. They should not be left in the bags in which they may be received if sawdust or buckwheat chaff has been used as a medium for packing; the slightest damp will induce them to commence root activity. For most of our shows the beginning of October is a good time to pot the bulbs, and on no account should potting be delayed after the end of the month.—W. BARDNEY.

(To be continued.)



EULOPHIELLA ELISABETHÆ.

THE courtesy of M. Lucien Linden enables us to present an engraving (fig. 35) of the beautiful novelty *Eulophiella Elisabethæ*, introduced by L'Horticulture Internationale, which proved so distinct that Mr. Rolfe could find no place for it in any existing genus, and therefore made it a genus of itself. It formed plate 325 of the May number of *Lindenia*, in which it is fully described. It has the habit of a *Catasetum* or *Eulophia*. "It produces a long horizontal stem, furnished with a score or so of most beautiful

flowers. The sepals and petals, which are stout in substance and distinctly rounded, are white tinted with rose; the broad, three-lobed lip is of the same shade, and bears at its base a bright orange callus; the back of the segments is coloured with a beautiful reddish brown, as well as the floral stem itself. The engraving gives a good idea of this fine novelty. The flowers have the dimensions of those of *Odontoglossum crispum*, or of a large *O. citrosimum*, a species of which they somewhat recall the elegant rounded form. They exhale a delicious perfume.



FIG. 35.—EULOPHIELLA ELISABETHÆ.

Eulophiella Elisabethæ, which is dedicated to the Queen of Roumania, was exhibited at a meeting of L'Orchidée in spring, and was unanimously awarded a first-class "diplôme d'honneur."—"Le Journal des Orchidées". It is recommended that the plant be grown in a warm house, and it is stated to succeed under the treatment required for *Phajus*, *Eulophia*, and *Cyrtopodium*.

HABENARIA MILITARIS.

THOSE readers who paid a visit to the meeting of the Royal Horticultural Society at Westminster on Tuesday, September 6th, no doubt noticed the very fine basket of this lovely *Habenaria* exhibited from the collection of Sir Trevor Lawrence, Bart., Burford Lodge, Dorking. Although *H. militaris* has been exhibited on several occasions during the past few years, very few people seem to possess it. It is easy of cultivation, but failures occur because the plants do not receive the attention they require during their resting period. The specific name implies a military appearance, doubtless given on account of the erect spikes and bright coloured flowers. I believe the plant was first introduced by M. Godefroy Lebœuf from Cochin China in 1886. The leaves are linear, acute, 8 inches long, and half an inch broad. The plants when flowering vary from 6 to 12 inches in height, in fact there seem to be two varieties, one half as tall again as the other. The spikes are erect, and carry twelve to eighteen flowers; the sepals and petals are greenish and form a kind

of helmet; the lip is large and spreading, very bright scarlet; the spur and the bracts on the stem are very curious. When growth has commenced the tubers should be potted into small pots (60's) in chopped peat and sphagnum mixed with sand. A stove temperature and plenty of moisture with a position near the glass will suit them. The plants commence to flower at the end of August and last in beauty about a month. Soon after the flowers have faded the plants commence to die down, and as they are entirely deciduous water must be withheld; to keep them through the resting period is the hardest part of their cultivation. With the two or three plants I have had to do I find that they require resting in a stove temperature on a shelf. It is a good plan to place the pots containing the plant in a pot a size larger, and fill the space between with sand. The moisture in the house prevents the sand from becoming quite dry, and it in turns prevents the tubers from being shrivelled up, obviating the necessity of watering, and so preventing damping off.—C. K.

HABENARIA CARNEA.

By the side of a plant of *H. militaris* and in contrast to it a plant of *H. carnea* is flowering in the warm Orchid house at Kew. Its requirements are the same as the above, but it does not need to be dried off. The leaves, which are 2 inches long by 1 broad, are dark green, plentifully marked with white spots. The spike is about 8 inches high, carrying six or eight large flowers, white with the faintest tinge of pink. The spur attached to each flower is about 3 inches long. This plant flowered at Kew for the first time last year, and was sent to that establishment by Mr. Curtis of the Penang Botanic Gardens, who, I believe, found it in the Langkawi Island. If *H. carnea* could be successfully introduced in quantity we should have a splendid companion to *H. militaris*, but at present it is new and rare.—C. K.

CÆLOGYNE FLEXUOSA.

THIS species is a member of Lindley's group *Flexuosæ*, and is allied to *C. simplex*, *Lindl.* and *C. suaveolens*, *Hook. f.* From the former, however, it is readily distinguished by its sharply hexangular ovary, broader petals, and the more slender keels of the lip; from the latter by the narrower petals and the straight, not very undulate, keels of the lip; and from both by its habit of producing the scapes from the summit of the nearly mature pseudo-bulbs between the leaves, not from the young growths. It is a native of Java, and was presented by the Botanic Garden at Leyden to the Kew collection, where it flowered in April of the present year. It was also received from Mr. F. W. Moore, Glasnevin Botanic Garden, Dublin, as a Javan species, as long ago as May 1889, when it could not be determined. The flowers are white with a light yellow stain across the middle of the lip, which is extended as a narrow line on either side of the disc to near the base, at which point the lip is very sharply constricted, producing a narrow transverse channel underneath.—("Kew Bulletin.")

ONCIDIUM CRISTATUM.

A distinct and pretty species introduced from Brazil by Messrs. Linden, L'Horticulture Internationale, Brussels, which flowered in April of the present year, and was sent to Kew for determination. It is allied to *O. Schillerianum*, *Rehb. f.*, and *O. Volvox*, *Rehb. f.*, with which it agrees in its somewhat twining scape. The sepals and petals are reflexed, undulate, and of a clear bright yellow, the lip a little deeper yellow with a row of suffused red-brown dots on either side of the crest, and the column-wings deep yellow. The crest consists of five parallel cristate-crenulate keels, the two outer ones being longer, and the two next considerably shorter than the middle one.—("Kew Bulletin.")

CYPRIPEDIUM PUSILLUM.

This is a curious little species, closely allied to *Cypripedium fasciculatum*, *Kellogg*, a native of California and Oregon, being in fact the only other member of the section *Diphyllæ* with racemose flowers. The present species, however, is a much smaller plant in every respect, barely exceeding 4 inches high. The flowers are light yellow, longitudinally veined with dull brownish-purple, with a light yellow lip; they become more purple as they fade. The infolded margin of the lip, which is strongly infolded round the mouth, is at the base suddenly turned out and reflexed. A plant was purchased for the Kew collection in May last, without any record of its origin, but shortly afterwards it was sent for determination by H. J. Elwes, Esq., of Cirencester, who had received it with the information that it came from Florida. It has also flowered with Messrs. F. Sander & Co., of St. Albans.—("Kew Bulletin.")

INSECTS OF THE FLOWER GARDEN.

(Continued from page 96.)

SPACE did not allow me, in the preceding article, to complete the history of those lively little visitants or dwellers in our gardens, the gall-gnats, otherwise *Cecidomyiæ*, and I now append a few more facts about them. I have called them lively, and so they are when winged, but as larvæ they are very slow in their movements; as a rule, indeed, those that live within galls only quit them to descend to the earth, then they are said to move rapidly. Some of the tiny larvæ, however, turn to pupæ without quitting the gall, in which they spin a slight silken cocoon. Obviously, the galls made by these insects on leaves are more frequently noticed than the enlargements they produce on the stems of plants, or in unexpanded buds, which are apt to be passed by as natural peculiarities of the plant. Some deformed buds, such as those sometimes seen on *Fraxinus* species, contain several *Cecidomyiæ* living in a sort of "happy family" condition. What is more singular still, some galls serve as abodes for two larvæ of different species, the egg producing the second larva being deposited when the first is partially grown. How the couple arrange matters is doubtful; some entomologists think one of the two dies eventually, a single fly emerging from the larva which has been stronger, and has possibly devoured the other or else starved it out. Some wonder has been expressed how these slender, seemingly feeble, flies can release themselves from the galls if it has happened the pupæ have remained in them. It appears they are helped in getting out by their antennæ, which are horn-like at the base, also they obtain leverage from spines situate on the abdomen.

One remarkable fact is stated about a few species of this group; they are, like the aphides, viviparous, and false eggs form in the bodies of some of them, which increase till the larvæ become distended with young larvæ resembling themselves. Such *Cecidomyiæ* have occurred under the bark of trees, in the cones of Pines, and in fungi. Though, as a rule, the larvæ of this group prefer living plants, gall gnats have been reared from decaying bulbs of Tulips and Hyacinths. Then there are other species, which some have placed in a genus by themselves and named *Diplois*, and which live upon, not in, leaves; they are presumed to feed upon plant lice, possibly also upon mites. These are colourless, usually, and transparent, or nearly so; the last ring of the body is spiny, and by the help of the spines occasional leaps are made by the larvæ in pursuit of their prey. These must be considered useful. Some of the flies haunt flowers, and, small as they are, it is supposed they assist the impregnation in some instances, because they can enter blossoms, from which their own size excludes bees and larger flies. In leaving these, I should add that the former has a terrible enemy amongst them, the Wheat midge, or *C. tritici*, and to the same group belongs the Hessian fly, so-called.

We pass now to flies of somewhat different form, rather stouter, though allied to the gnats and midges. Several of these in their larval state occur amongst manure, especially vegetable, but one of them is notably a pest wherever it turns up, because it makes the roots of plants the object of its attack. From some odd reason, this fly has received the name of St. Mark's fly, or *Bibio Marci*, but I do not think gardeners generally recognise the insect by this or any other particular name, as the larva is seldom distinguished from similar root-feeders, such as those of the crane fly tribe. In the fly, which is small, the males and females have heads very unlike. The former have eyes so large and prominent that they seem to occupy almost the whole front of the head. The larva or grub of *B. Marci* is slender, brown in colour, muscular, and clothed with short, stiff hairs, which serve instead of legs. It sometimes infests the Strawberry, and in the flower garden burrows at the roots of the Larkspur, *Ranunculus*, and other favourite flowers. Not unfrequently these larvæ run tracks for a long distance underground, perhaps for the sake of meeting sociably, since they have now and then been found in parties of from ten to a hundred packed closely together. This pest may be destroyed by the application of petroleum, suitably diluted; it is also killed by hellebore tea.

Passing by the great host of gnats and midges which are, in their larval state, of aquatic habit, yet which come to our gardens either to visit the flowers or to act as bloodsuckers if they have opportunity, I mention one little creature which we frequently see on the windows of our plant houses in autumn and winter. It rejoices in the Latin name of *Psychoda phalænoides*, because it is supposed to look rather moth-like, with sloping, broadish wings, which have tiny hairs and black bands. It runs and hops briskly if alarmed, and comes from a larva which lives upon manure. The *Tipulidæ*, or crane flies, are long-legged and long-bodied. Their lankiness makes them also share with a species of spider the name

of "Daddy Long-legs," and the easy, indifferent way in which they throw off or drop their limbs apparently for slight causes is a matter of common remark. But when we see one moving amongst blades of grass we perceive at once the advantage they derive from these legs, which are prehensile as the fly moves, and enable it to glide along rapidly, while it maintains an upright position. This is particularly advantageous to the female fly, as this frequently resorts to lawns and fields of grass. She has a sharp egg-placer or ovipositor, and sits on the stem of some grass, then steadily works this instrument into the soil, depositing eggs in the holes made. Extensive patches of ground are sometimes laid bare by the larvæ of *Tipulæ*, though it may happen that the grass is improved where they are few in number through the removal of superfluous roots. Clover and cornfields are also visited by this insect as well as the kitchen garden, and in our beds and borders there are often to be noticed signs of its presence at the root of some choice flowers. It has been observed to single out for attack the Carnation and the Dahlia. There are numerous species, but of these only four seem to be injurious—viz., the abundant and familiar *Tipula oleracea*; the giant crane fly, *T. gigantea*; the spotted crane fly, *T. maculosa*; and the marsh crane fly, *T. paludosa*.

Some gardeners have suffered so much from the crane fly larvæ that they have given to the insect the name of *the grub* emphatically, and it has been called "leather jacket" from the toughness of its skin. The head is blunt, having two powerful jaws; the sides of the body are lithe and wrinkled; in colour it is usually greyish or brown. It would appear that the eggs are not hatched till the new year, generally about February. The greatest mischief is done by these larvæ during May and June; in July they have entered the pupal state. The pupa, or "fly-case," has spines by which the insect pushes itself through the soil to the surface. It has been said that the male flies emerge first and assist the females to extricate themselves from the case. Rolling, which is a successful means of reducing the numbers of the crane fly larvæ in fields, cannot be tried in the flower garden, and many applications tried, such as carbolic acid in solution, or one of sulphate of iron, if strong enough to kill them, are likely to damage the plants. A judicious application of manure to the roots has been proved to be serviceable, lessening the mischief done by these grubs, and where they have been caught attacking the stems just below the surface, a little lime put in a ring round them keeps the insects away. Some writers upon horticulture have expressed the opinion that now-a-days it is the fashion to water plants too freely; for one thing it is certain, as Miss Ormerod has pointed out, that the moister the soil is, the more do the *Tipulæ* thrive. It is in damp, low lying districts that they occur abundantly, and water has so little effect upon them that immersion in it for hours does not drown them.—ENTOMOLOGIST.

DISCUSSION ON APPLES.

VARIETIES of Apples change so much under the conditions in which they are grown, and several of them are so well marked by innate peculiarities, that information contained in notes from correspondents could scarcely fail to be interesting and useful. Mr. Bunyard gives a timely hint on the method of pruning that should be avoided for obtaining the best crops of the beautiful Lady Sudeley, and Mr. Molyneux warns against planting Keswick Codlin in strong soil. He also alludes to Frogmore Prolific, certainly one of the very best in growth and fruit at Chiswick this year, but it fails in some places. What is the cause? Is it the soil or the stock? A wide field is open for discussion about Apples, and the time is opportune.

LADY SUDELEY.

IN the *Journal* of September 8th, page 211, is a short note on Lady Sudeley Apple, which appears to me rather misleading; as Irish Peach has been past its season here for ten days, and Lady Sudeley is still good, they can scarcely be compared to each other. We gathered Lady Sudeley first about September 1st, and I send you six pulled to-day. We expect them to remain on the tree for ten days more. You can test their quality. They are most striking on the trees, being quite scarlet. I may add that they have a habit of growth like Golden Noble of fruiting at the tips, and giving often a foot of growth with no spurs, so that they require no pruning, so to speak, only a little regulating after a tree is once formed.—GEO. BUNYARD.

[The fruits received are much superior to those placed on the Committee table, and the quality distinctly better, which appears to show that it is best when gathered and eaten at once. They are the best Lady Sudeleys we have ever seen. The hint as to pruning should be noted.]

KESWICK CODLIN.

ON page 250 Sir John Sinclair is quoted as saying, "It flourishes best in a strong soil." That is exactly what this Apple will not do here, and our soil is strong enough without being actually clay. This variety is one of the worst we have among many; it bears any amount of fruit, but it is of poor quality, numbers not being larger than full-sized Walnuts even now. Young trees planted in November, 1890, have made but little growth; they have borne a quantity of fruit, but it is very much specked. In August the same year the fruit foreman of a large nursery remarked, "You ought to plant Keswick Codlin freely." I replied, "It is of no use here." He evidently thought it was, for he sent a couple of trees (those referred to above), with the result recorded.—E. M.

WARNER'S KING AND D. T. FISH.

AT one time I was inclined to think a trace of distinctness could be found in the fruit from trees named as above. A similar tree of each was growing not far from the other, and fruit from the latter exhibited more colour than that from the first, though little difference could be discerned in the position of the two trees. This year trees of Warner's King have fruited in an open field which have exactly the same characteristic features about them as had the fruit of D. T. Fish, which is enough to convince me that they are one and the same. With these also must be classed Nelson's Glory, which is identical with the original Warner's King, although our tree was received as distinct.—E. M.

FROGMORE PROLIFIC.

MY experience with this variety coincides with that of the note on Apples at Chiswick by "P." (page 238), although I know of one instance where many trees of it have been cut over and grafted with another sort. With us the fruit is ripe now (September 15th). I like its appearance very much; it seems to possess all the characteristics of a good Apple.—E. MOLYNEUX, *Hants*.

ATTRACTIVE ARRANGEMENTS IN BEDS AND BORDERS.

DURING the autumn of last year notes from several gardeners were published of arrangements of flowers which they considered striking. As an instalment to any such notes that may be sent this year, the following may be of some interest:—

One set of beds has been devoted to Tuberous Begonias, a central bed being yellow, four outer groups crimson, and four others rose. They are in each case planted among a groundwork of *Königa variegata*. The strain of Begonia is called erect-flowering. Nothing could be more brilliant than these. They have been blooming since the end of June, and are now one sheet of large open blossoms. The yellow is less effective than the other colours.

Another group of beds which are very pretty are planted with *Calceolaria Kayi* and *Veronica Andersoniana variegata*, alternate plants. The flowers of the Veronica have a charming effect, and soften the rather gaudy hue of the *Calceolaria*. These are in juxtaposition to other beds of Henry Jacoby Pelargonium, and are, in each case, edged with a broad band of close-cut *Cerastium tomentosum*. I like these very much.

A set of borders, backed with large bush Apple trees, and having a broad grass walk between, running some 90 yards in length, is every season planted in a different manner. The present season there is an edge of white Lobelia next the grass, then a broad carpet composed of alternate plants of light blue Lobelia and Harrison's Musk. This is backed with a line of the best Pentstemons, and behind these among the trees is mainly *Salpiglossis*, a line of Phloxes forming the extreme back of the border.

All over the border, in the space between the white Lobelia and Pentstemons, are dotted a large number of plants which are now flowering. These consist of 250 *Hyacinthus candicans* planted singly, 600 *Gladiolus brenchleyensis* planted in tens, 200 *Montbretias* in tens, these being to the front, where there are also a few of the *Dracæna-leaved* Beet. There are also a few single plants of Prince's Feather and of Love-lies-bleeding, groups of Tiger Lilies at the back of the border, and some *Acacia lophantha*, variegated Maize, *Lilium auratum*, and Madame Desgranges Chrysanthemums, with here and there an Iceland Poppy. Notwithstanding some blanks among the Lilies, these borders have been, and will be for some time, very effective and interesting.

Many more plants might have been utilised, but there was a danger of overdoing the "dots." *Chamæpeuce diacantha*, Castor Oils, *Lobelia cardinalis*, *Campanula pyramidalis alba*, large plants

of *Veronica Andersoni variegata*, and 5-inch pots of *Marguerites* were some others I had in view. If too many are planted at first it is impossible to effect any alteration; but should there be any lack of plants it is a very simple thing to put more out as soon as a blank spot is noticed.—R. P. BROTHERSTON.

CELERY NOTES.

THERE is no disputing the fact that more Celery is spoilt during what may be termed a favourable season than during a hot and dry summer. This at first sight may appear incredible, but it is by no means so difficult to account for as may be imagined. Celery is a very moisture-loving hungry plant, and when once the trenches are well filled with roots there is little likelihood of too much water being supplied during the growing season. Showery weather and comparatively heavy rains are most misleading. Either the one or the other very frequently has the effect of stopping all watering operations, whereas nothing short of a thorough soaking rain, extending say over several hours, is sufficient to moisten the soil and manure about the Celery roots, and that only for a short time. When, however, the weather is hot and dry the watering pot is freely and frequently used by those who are anxious to grow good Celery, the consequence being that the latter gets all it requires.

The summer of 1892 cannot be said to have been favourable to the growth of good Celery, yet I can truthfully assert I never saw so many superior samples of it during one season in my life. It was not merely at one or two isolated shows that it was good, but I saw and tested exhibition Celery in various parts of the country, at cottagers' shows, as well as some of the most pretentious exhibitions, and it was the same everywhere. At the great Co-operative Festival at the Crystal Palace it was part of my duty to assist in adjudicating on the merits of two classes of Celery—one for white and the other for red forms. There were twenty-five entries in each, and out of the whole lot there were only two bad samples, bolting in all other cases being conspicuously absent, while the quality generally was good. In this instance, and also at several other shows, the Celery was exceptionally fine, and it is equally worthy of note that this remark does not apply to any particular variety or varieties, quite a number of so-called distinct forms being equally well represented.

The foregoing only goes to corroborate assertions that I have previously made in these pages—viz., that much Celery is spoilt or caused to bolt prematurely on account of dryness at the roots, and this not so much during the hottest part of the summer, but rather during September and October. When once the first moulding up has been given few think of watering Celery, yet it requires it as much then probably as at any period of its growth. This assertion can be easily proved or disproved. All that is necessary is to probe deeply and somewhat roughly, some of the soil and roots to a good depth being brought to the surface. If it is found to be in a thoroughly moist state all well and good, no harm being done either way; but if, as is more likely, it proves to be very dry, a good soaking of soft water, soot water, or liquid manure ought to be given at once, even if it is raining at the time, this being repeated once or twice before more mould is banked up around the stems.

Those who follow the good old practice of laying a pipe drain along the trench are the least likely to neglect to give autumn waterings, pouring large quantities in at the highest end being a simple and, I might say, a tempting proceeding. In very many soils and positions Celery roots are found to be very dry when dug at midwinter or later, and it is questionable if a soaking ever takes place after once moulding up is well advanced. The other extreme would most probably be even more injurious, frost proving destructive or more penetrating when it can act upon moist soil; but there is no likelihood of any moisture applied during September or the succeeding month long remaining unappropriated by the abundant and absorbing Celery roots in trenches.

Sites of old Celery trenches are supposed to be very suitable for rows of Peas during the following season, but, as far as the manure is concerned, there is not much left of that after the Celery has done with it. If my advice then is taken the Celery rows will not be neglected, but should receive occasional moistenings at the roots for some time longer, the last being given, if need be, just prior to the final moulding-up. Much of what would otherwise have been good Celery is also spoilt in the moulding-up. Not only must the stems and hearts be well blanched, but it is of equal importance that these be kept as intact and clean as possible. The grower for exhibition, if he is wise, effects perfect and cleanly blanching by means of several folds of brown paper, or even ordinary newspapers, the latest Celery also having an additional bandage of canvas or sacking to preserve the paper and keep out frosts. Any not so carefully blanched stands but a poor chance of winning a prize, the contrast in favour of that not moulded-up being most marked. In the case of the bulk grown for ordinary purposes there is less need for resorting to extraordinary blanching processes, good presentable Celery being the most simply produced in the ordinary way—that is to say, by gradually moulding-up.

In heavy soils, more especially, slugs are very troublesome, greatly disfiguring the outer stalks, and not unfrequently the hearts, after the soiling-up has been completed. A free use of fine ballast, charred clay or other burnt soil, and ashes, the stalks being surrounded by either of these, effectually excludes slugs, and the Celery keeps well in it. It is not so very much of this that is needed, the way to use it being to place

boards on either of the rows, filling-in with the slug-preventing material, and drawing out the boards after some of the ordinary soil has been well banked up to them. A little fine soil added is also of good service when the garden soil is hard and lumpy, the method of proceeding being exactly the same as that just described. Our ground being in fairly good order, and slugs fewer in number than usual, all that is being done by way of keeping away the latter consists of using soot very freely about the Celery each time more soil is added. Cooks and butlers sometimes object to the sooty Celery, but the soot washes off readily enough if only a little trouble is taken, and soot and Celery certainly agree well together.

It is possible to be either too early or too late in moulding up Celery. If the soil is placed around the stems much in advance of heart growth, the latter is liable to be pinched for room, bulging and splitting as a consequence taking place at the base. If left too long before soiling up commences the outer stalks open out badly and cannot be brought up together neatly without many of them splitting. It is also possible to be too late in completing the moulding up, sharp frosts catching a good length of unprotected tops, early decay resulting. If well banked up before severe frosts are anticipated only a little more than the tips of the leaves being left out, no further protection is often needed, the Celery keeping well without it. At the outset the smaller lower leaves, suckers, and weeds should be cleared away from the plants, the outer leaves being then drawn well and neatly up together, and either temporarily tied or held by a pair of hands while one or two other assistants break down the soil and place about 3 inches in the trench. Then as the centre fills up take the same precautions as to holding or tying the outer stalks well up together, so as to effectually exclude soil from the hearts, and add another 3 inches or rather more of soil, avoiding unduly pressing against the stalks.

After an interval of three weeks or so the final moulding up may take place, and this time it should terminate in a neat ridge, so as to throw off heavy rains and snow water, as it is not about the stalks that moisture is needed, and it is also advisable to pack the soil somewhat firmly about the leaves.—W. IGGULDEN.

POTTING WINTER-FLOWERING PLANTS.

No time should be lost in potting the various kinds of winter-flowering plants which were planted out in prepared holes or trenches towards the end of May or early in June last, lest they should get nipped by frost, which they would run a risk of doing if left in the open for a week or two longer.

The first to require attention in the direction indicated is the *Bouvardia*, which is one of the most useful as well as the most easily cultivated winter-flowering plants we have. Having decided on the size of pots into which the plants are to be placed, and which, in a general way, range from 9 inches in diameter to 6 inches, place in from 2 to 3 inches of potsherds, putting a large piece over the hole, and making up the depth indicated with two or three smaller sizes, putting the smallest on the top and over them a handful of half-decayed leaves, a layer of moss, or coarse loam. This done, ring round the plants with a spade at from $4\frac{1}{2}$ to 3 inches from the stems, according to the size of the plants and the pots into which they are to be placed. Before potting cut off all straggling and damaged roots.

Use a compost of four parts light friable loam and one of leaf mould and peat, with sufficient sharp sand to render the whole porous, working it well in between the ball and the pot with a flat rammer, making the soil moderately firm at the top and sides, and leaving a space of an inch at the top for water. Then stand the plants on sifted coal ashes in a cold pit or some other suitable place where they should be shaded from sunshine for a few days, and protected from frost. Give water at the roots to settle the soil about them, and afterwards repeat the application as occasion may arise. Syringe the plants lightly on bright afternoons for about a week, until they have quite re-established themselves. After this the shading should be discontinued and a free circulation of fresh air be admitted to the plants during bright days, drawing up the sashes in the evening and covering them with mats until the time for putting the plants into a forcing house arrives. This must be determined by the time they are required to be in full flower. If at Christmas it would be advisable to put a portion, if not all, of the plants into heat towards the end of October. From that date until the flowering period arrives weak applications of tepid liquid manure should be given, together with occasional surface dressings of Thomson's or some other approved plant manure immediately before applying clear tepid water. Plants thus treated, assuming that they had been well attended to in the way of stopping and giving water at the roots during the past three months, will yield a profusion of deliciously scented flowers in due time. When put into the forcing house a minimum temperature of 55° to 60°, according as the weather is cold or mild, should be observed, afterwards increasing it four or five degrees if necessary to hasten the plants into flower.

Richardia (Calla) aethiopica should next receive attention in the manner described above. The compost in this case should consist of four parts sound fibry loam (where obtainable) and one of horse droppings, with a dash of coarse sand. The large fleshy roots will soon push into this mixture, and, being a gross feeding plant, liberal supplies of tepid liquid manure should be given at the roots during the forcing and flowering period in order to obtain a good succession of large well-developed flower-spikes. Occasional fumigations on calm evenings with tobacco paper will be necessary to rid the plants of aphids, to the

attacks of which they are liable when subjected to the somewhat close warm temperature of a forcing house.

Marguerites, Eupatoriums, Salvias, *Schizostylis coccinea*, and *Deutzia gracilis*, where planted out during the summer months, should also be potted in the manner indicated, putting tufts of the *Schizostylis* into 4½-inch and 6-inch pots, as these are the most convenient sizes for decorative purposes. The *Schizostylis* is an excellent decorative plant, the small spikes of Gladiolus-like scarlet flowers thrown up well above the grass-like foliage show off to great advantage when associated with flowering plants of *Bouvardia Humboldtii corymbiflora* (white), and such plants. By potting the *Deutzias* at once the plants have time to thoroughly re-establish themselves in the pots before they have shed their leaves; this is preferable to potting them immediately after the fall of the leaf for putting into the forcing house shortly after.

In conclusion, it is very advantageous to all the plants named that they should have a good interval of rest before being introduced to the forcing house, as better results are obtained. I may also add that the cultural remarks given above as to shading and watering at the roots are applicable to all the plants mentioned.—H. W. WARD.

CABBAGES, SPRING *VERSUS* AUTUMN PLANTING.

THE severe winters we have recently experienced have brought forcibly to the minds of gardeners the necessity of paying special attention to the production of spring Cabbages, and considering the probability there is of having another trying winter it behoves us to review the methods of procedure practised in the past, and to try if possible to improve upon them. One of the surest ways of doing this during such exceptional winters as the last two is to get the plants thoroughly established before severe weather sets in. Then, if they have been grown sturdily, they seem to be proof against any amount of frost. Should the weather, on the other hand, continue mild, a large percentage of such early plants will sometimes bolt. Careful cultivators, therefore, put themselves on a safe footing by making two or three sowings.

Plants raised from the later sowings are usually put into their final quarters as soon as they are large enough, which is often during October, and during a severe winter two-thirds of these late plants are killed. The practice of putting the early raised plants into their permanent quarters as soon as they are large enough is undoubtedly the best one to adopt in their case; but I hold the opinion that later plants should be treated in a different way, so that we may ensure their safety in winter, and yet have them quite as early in spring—in fact, earlier than they would be if treated in the ordinary way. A good breadth of our earliest plants have already been planted out, and the remainder will be completed in the course of a few days. Plants from the next sowing are just large enough for pricking-out, and the latest batch are now showing their first rough leaf. None of these will be planted in the open ground till spring. They will be pricked out on a warm sunny border, from 4 to 6 inches apart, according to their size, and, judging from my experience on a small scale last year, almost every plant will survive if a similar winter is experienced. These if lifted carefully with a trowel and put into their permanent quarters next February or March, as soon as the weather is favourable, will grow away unchecked till ready for use, and will follow the earliest-sown plants closely.—H. DUNKIN.

THE WEATHER OF 1892.

THE weather provides some interesting facts from time to time, as all will agree. The present year stands out as an exceptionally dry one, so far; whereas in 1891 we had, up to the present date—September 16th—ninety wet days, and consequently 168 dry days, or less than a record—viz., 0.01 of rain, this year we have registered but sixty-six days on which rain fell; the number of dry days has consequently been much greater than last year. The total quantity of rain registered last year up to the date quoted was 19.10, while this year we can reckon but 13.05. Curiously enough the month of August is noteworthy as being productive of more rain than any other month up to the present date in both years—viz., 6.69 in 1891, and 3.31 for this year. Last year this total was only topped once in any month—October—when 8.28 inch was recorded. There is but a short time left now for the average rainfall of this part to be made up, and we are considerably behind at present. Now that harvesting is all but completed, a continuous rain for forty-eight hours would do good by moistening the soil to a good depth and rendering planting of trees a much easier and safer operation for those who are about to engage in the work.

May has this year proved to be the driest month as yet; only 0.72 inch was recorded, this falling on two days only, which left us with twenty-nine dry days; and as the three last weeks were exceptionally hot vegetation was impeded, especially the planting of flower beds. The greatest amount of rain which fell in one day was 1.07 inch on August 27th; the nearest approach to this was 0.71 inch on July 16th. It will thus be seen that rain here has been scarce, but when we were experiencing such drought in May farmers in some parts of England—for instance, Lincolnshire—could scarcely get on some of their land for days together owing to its wet state; they were envying the tropical heat here, and we lamenting the surplus rain they were experiencing. The month of February in both years was very far from fulfilling the old saw of "fill dyke." Last year not a drop of rain was registered during the month; this year but 0.99 was the total.

Although we may not have had any day during the whole of the present year so hot as that registered on June 19th, 1891, when the maximum heat was 91° in the shade, we have certainly had many hot days and perhaps more regularity in the registering of hot days than in 1891. Our greatest maximum record this year was 89° on June 28th.

Taken altogether we have had warm nights, although the thermometer fell unpleasantly near freezing point on four occasions. This month on the morning of the 8th it registered but 4° above freezing on a hill 395 feet above sea level. I should think in the near valleys it was but little short of actual frost. The 15th of June and the 18th of that month this year will long be remembered by some, the thermometer falling to 28°, working sad havoc with many crops, Potatoes especially.—E. MOLYNEUX, *Bishop's Waltham*.

PENTAS CARNEA.

WHEN visiting the gardens at Parkside, Huyton, the residence of J. A. Wilcox, Esq., M.P., some well-flowered plants of this most useful and free-flowering stove plant interested me very much, and led me to wonder why it was not oftener met with in places where there is room to grow it, for it is scarcely ever out of flower, and its beautiful lilac heads will vie with many plants taking up far more room, and far harder to cultivate. Although preferring early spring for the propagation of this plant, still if cuttings of the half ripened wood can be secured now, there is no reason why a commencement should not be made. Either insert the cuttings separately in small pots in a mixture of leaf mould and sand, or place five or six in a 5-inch pot. Remove the pots to a propagating case, keeping them fairly moist but not too much so, or the cuttings will damp to a great extent. In a few weeks they will be rooted, when they may be transferred to small pots, using a mixture of loam, leaf mould, and sand. If they are kept steadily growing throughout the winter, and the points pinched out, they will by the turn of the year have grown into useful little plants, and may be removed into pots a size or two larger. In these pots a portion may be allowed to flower, and others may be kept pinched until about the end of June or beginning of July. By that time they will be ready for a shift into 8-inch pots, using for a compost three parts loam to one of leaf mould and sand, with a little charcoal added. As the plants grow and the roots begin to fill the pots, a little liquid manure will help to strengthen them, and if they can be kept in a warm frame for a month or so during the summer so much the better, as it will harden the shoots. They should be taken into the stove for the autumn and winter, by which time the grower will be rewarded with abundance of charming flowers.—R. P. R.

MALSHANGER PARK.

THIS really beautiful place is the residence of W. S. Portal, Esq., and through the kindness of Mr. Kneller, the gardener, I had the pleasure of going round the garden a few days ago. Good things are always to be found there well grown, but just now some are extra good.

In a span-roof house is the finest crop of the best-shaped Tomato I have ever seen. The variety is Sharpe's Plentiful, a greatly improved variety of Perfection. The fruit is hanging all over the house like ropes of Onions, of the most beautiful shape and colour. This house is alone worth a journey to see. Next comes a vinery, and as only one house can be devoted to Grapes, to keep up a supply as long as possible early and late varieties are grown in the same structure. Though not usually seen good together, I was surprised to see all finished and finishing well. Plenty of air and water are, I think, the secret. The next house is devoted to plants, and is just now full of really well grown Zonal Pelargoniums, which appear to be another of Mr. Kneller's specialities. Grand trusses of such varieties as Norah, Aurora Borealis, Kate Farmer, Mrs. Pearson, Queen of the Belgians, Plutarch, and Queen Matilda make a splendid display. Another small house is devoted to Cucumbers, planted with a variety of Mr. Kneller's own raising, the result of a cross between Al and Model. The plants are now a little past their best, but there is still plenty of fruit to show the excellence of the variety, which is very free, with a short neck and as straight as a gun-barrel. It will make a first-class exhibition variety. Mr. Kneller is to be congratulated on securing such an acquisition.

As these notes were only intended to be short, time will not permit of a description of everything that is well done at Malshanger. Passing to the kitchen garden we came to the exhibition Onions, and wonderfully well they looked. Mr. Kneller is a well-known expert at Onion growing, and it may not be out of place to mention that twelve Onions grown by him turned the scale at 30 lbs. His best varieties are Deverill's Ailsa Craig, Anglo-Spanish, and Rousham Park. All kinds of vegetables are well grown, annually taking first prizes at the leading shows. Last year Mr. Kneller was successful in securing a valuable gold medal for a collection of vegetables at Reading. A very fine row of Scarlet Runner Beans attracted my attention. I found that the variety was another of Mr. Kneller's careful selections, this time from Ne Plus Ultra. The young pods average nearly a foot in length. I believe the stock is likely to be distributed by Messrs. Sharpe & Co.

Beautifully kept turf walks run through the centre of the kitchen garden, on each side of which is a fine collection of herbaceous plants and annuals for cutting purposes. Very conspicuous are large plants of the Globe Thistles, *Echinops Ritro* and *ruthenicus*, *Achillea*, *Eupatorium*, and Golden Rods. A description of the charming flower garden surrounding the mansion, with the many fine views, must be left over for a future occasion.—G. TRINDER, *Dogmersfield*.



EVENTS OF THE WEEK.—The ensuing week will be one of the quietest of the year. There are no shows of any importance announced. A meeting of the Floral Committee of the National Chrysanthemum Society takes place on September 28th. Auction sales of bulbs and Orchids will be conducted during the week; for particulars see advertisements on the second page.

— **THE WEATHER IN LONDON.**—A fine week has to be recorded, the weather having been uniformly dry, warm, and fine during the past seven days. Harvesting, fruit gathering, Potato lifting, and other operations have proceeded with little or no check, in which there is cause for thankfulness. Circumstances now indicate a change. The barometer shows a little depression, and the wind, which is south-westerly to westerly, is light and variable. At the time of going to press the weather is showery, warm, and close.

— **UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.**—Mr. John Fraser of Lea Bridge will preside at the annual dinner of this Society, which takes place at the Cannon Street Hotel on Wednesday, October 6th, at 6 P.M.

— **FRENCH HORTICULTURE AT THE WORLD'S FAIR.**—The French Commission will send to the World's Fair to superintend the horticultural and floricultural work in the French section M. Le Fevre, the Superintendent and head gardener for the City of Paris, who has charge of the gardens in the Bois de Boulogne. M. Le Fevre was in charge of the gardens around the Trocadero at the Paris Exhibition in 1889. M. André will prepare the plans.

— **VERONICA LONGIFOLIA SUBSESSILIS.**—This is perhaps the finest of all the Veronicas. Flowering late as it does in the summer it is very valuable, prolonging the display when the bulk of the family have faded. The colour is a rich purple blue. The flower stalks grow from 2 feet to 3 feet high, and are freely clothed with large dark green leaves, which enhances its appearance considerably. No collection of herbaceous plants is complete without this Veronica.—E. M.

— **PEACH GROSSE MIGNONNE.**—This is one of the best varieties for outdoor culture. It is of free growth, not subject to insects, mildew, or any ills which yearly befall some open air grown Peaches. On a south wall the fruit assumes an exceptionally high colour when the leaves are put on one side to admit of the sun shining full on the fruit. The flavour is good, perhaps the best of any variety out of doors. We have a tree covering an 8 feet high wall for 30 feet, which is bearing 260 fruits, very even in size. The tree is in a most promising condition for next year also, the buds appearing to be plumping up quite full.—E. M.

— **EXHIBITION OF POTATOES AT EARL'S COURT.**—A schedule has been forwarded to us of a great Potato Show, to be held in connection with the display of hardy fruit at the International Horticultural Exhibition, Earl's Court, on Wednesday, Thursday, and Friday, October 5th, 6th, and 7th. Seventeen classes are provided, thirteen of which are restricted to varieties in commerce, and four to seedling varieties not yet sent out. Many of the prizes are special contributions; for instance, in the first, which is for twelve dishes, nine tubers of each variety, Messrs. Sutton & Sons offer prizes of £6, £4 10s., £3 3s., £2 2s., and £1 1s. They also offer prizes of £5, £4, £3, £2, and £1 for nine dishes; and a set of the same value for six dishes. The Lord Mayor offers prizes of £2, £1 10s., £1, and 10s. 6d. for three dishes of white rounds; and there are many others, while the Executive also give many prizes. Besides the money prizes, a silver medal will be given for the best dish of Potatoes in the whole of the classes, and a gold medal for the most meritorious collection of Potatoes. Schedules are now ready, and can be had from the Secretary of the International Horticultural Exhibition, or from Mr. P. McKinlay, 24, Upper Thames Street, London, E.C. The latter has long taken a deep interest in the noble tuber, and it is pleasing to hear that he will manage the Exhibition. In so good a Potato year as this we may reasonably expect a very fine display.

— **TREE OF LIFE.**—Can any of your correspondents tell me the botanical name of the Tree of Life from Nova Scotia, and what treatment it requires?—W. J. J.

— **A CHANGE OF CHARGE.**—Mr. Henry Purser, who has had charge of the gardens at Ravenhill, Rugeley, Lord Zouche's Staffordshire residence, will in future superintend those at Parham Park, Pulborough, the same nobleman's Sussex seat.

— **SHOW SCHEDULES.**—The schedules of the Chrysanthemum Exhibition and Floral Fête, and of the spring Show of the Ancient Society of York Florists, have come to hand. The former will be held on November 16th, 17th, and 18th, the latter on April 26th and 27th, 1893. Spalding Chrysanthemum Show is fixed for November 10th and 11th; schedules are now ready.

— **THE FIRST FROST.**—There was sufficient frost in this part of Suffolk on the morning of September 18th to cut off the Vegetable Marrows and to touch Dahlias and Heliotropes. As more than half of our Vegetable Marrows were cut off on June 15th the summer of 1892 has been indeed a short one. The Dahlias were first touched last year on October 29th.—W. R. RAILLEM.

— **FROST AT BOURNEMOUTH.**—This locality was visited by a very severe frost on Saturday night, which has cut down Dahlias, Vegetable Marrows, and Scarlet Runners; but happily we in the centre of Bournemouth have escaped with only a slight touch of it. We have been having beautiful weather, and flowers were looking up after the late heavy rains and wind; it seems a pity to have them cut down suddenly.—J. B. STEVENSON.

— **SALE OF A SEEDLING ROSE.**—Messrs. Alex. Dickson & Sons of Newtownards have sold their gold medal seedling Rose, Mrs. W. J. Grant, to an American gentleman, who, upon seeing it, would not be said "Nay." I compliment him upon his good taste, as this Rose, which is a seedling from La France, is a magnificent one, perfect in shape, delightful in colour, deliciously perfumed, and one of the freest bloomers I ever saw.—M.

— **RETINOSPORA PLUMOSA.**—At the Swiss Nursery, Farnham, there are two very fine specimens of this refined-looking and very handsome Conifer, which are so good that, to quote Mr. Mortimer's words, "they have sold hundreds of young ones." The soil is essentially what may be called common land, not very deep, and originally a barren heath. Draining and trenching, however, have done wonders for it, with the result that what a few years ago seemed incapable of growing a common weed well now grows even show Dahlias in remarkably fine condition. These Retinosporas are each about 12 feet in height, and some 25 feet in circumference. They are of perfect form, and without a flaw, not a single rusty branch being found on them. This is probably the result of congenial soil. In any case it suits all kinds of Conifers well, especially Retinosporas.—D.

— **THE HOP CROP.**—A very distressing sight indeed was the general appearance of the Hop plants about Farnham last week. The work of picking should, under ordinary conditions, have been in full swing, but in extensive gardens in all directions there were seen immense quantities of the plants still standing untouched because so blackened by cold or winds or blight, or from all causes combined. No words can fully convey what the eye could thus see. In some places one-half the poles had been pulled, in others not more than one-third, these having been taken out here and there. In some gardens the crop was so clean a complete clearance had been made, but these were few. In others there did not seem to be one pole worth gathering from. In only one garden, and that a low-lying and well-sheltered one, did I see a really fair, clean crop, and that was of a late variety. It is all very well to talk about the uncertainty of fruit culture, but it is a bad season that gives no produce, whilst fruit cannot be of such costly culture as Hops are. Still further, even if the trees are fruitless, it is rare that they are not benefiting by the rest from production thus afforded. A bad season for the Hop crop is equally a bad one for the plants. I should prefer to see a sparse crop of Apples, Pears, or Plums at any time than such a one of Hops as this year affords. Having regard to the amount of filthy manure, all sorts of disgusting compounds, which Hops are dressed with, it is no matter for wonder that sometimes the plants suffer from epidemics. It is a wonder that humanity does not suffer also in the same way. Happily, not only is fruit culture exempt from those abominations, but the trees would hardly appreciate such treatment.—A. D.

— **TIGRIDIAS.**—Tigridias are a most gorgeous class of bulbous plants, and are of exceptional beauty. They are the most attractive when they unfold in the morning, but as the sun sets the flowers wither. As new blooms are produced almost daily a continuance is maintained for a considerable time. For the front of the herbaceous border there are few plants that can excel them in consequence of their peculiar shape and remarkable beauty.—GEO. PARRANT.

— **LYSIMACHIA CLETHROIDES.**—This Loosestrife is rather an uncommon plant in the herbaceous border, though not very rare. The peculiar manner in which the extreme point of its flower droops while expanding renders it interesting. As expansion takes place the flower spike assumes an erect habit. The flower is of the same form as a Clethra, hence its name. The plant blooms during August. The height altogether is a yard under good cultivation. We have it growing at the back of the rockery, the heavy soil suiting it well. It is of a creeping habit under the surface, where its roots run freely, therefore no trouble to propagate it is experienced.—E. M.

— **TOMATOES GREEN WHEN RIPE.**—I send a tin box containing three fruits of a Tomato, a sport from Sutton's Golden Nugget, in every way the same, but green when ripe. As I have neither seen nor heard of a green-fruited Tomato I thought you might be interested. I sent a specimen to Messrs. Sutton & Sons. They thought it interesting, but that the public generally would not appreciate it on account of its colour. I lost a few of the first fruits owing to their colour. Although ripe they were still green, and no doubt the public being used to bright fruited Tomatoes would think them unripe.—A. DUNCAN. [The fruits are as you say ripe but quite green. Probably there are some local conditions accounting for the greenness. We agree with Messrs. Sutton that the fruit would not be generally appreciated, although the flavour is good.]

— **POLYGONUM BRUNONIS.**—I have never seen this hardy perennial grow or flower better than it has done this season, and it would seem as if it could scarcely have too much moisture when well established. We have at the present time a grand clump of it in flower; there are hundreds of spikes, the older being of a pleasing deep rose colour, whilst the younger are many shades lighter, and they give the plant a very quaint appearance. For decorative purposes it is most useful, the slender spikes being well adapted for relieving heavy masses of flower. With us it is of the easiest culture. Planted in a border having an east aspect, in fairly good garden soil, 15 inches from the solid clay, and receiving a good top-dressing of decayed manure during the winter time, it has grown and flowered remarkably well for a number of years, and is now in excellent health.—R. P. R.

— **NEMESIA STRUMOSA SUTTONI.**—It will be remembered that this strikingly beautiful new annual, a native of South Africa, recently received a first-class certificate from the Royal Horticultural Society, when exhibited by Messrs. Sutton & Sons, Reading. Nearly the whole stock of seed they had was placed in the hands of Mr. Mortimer of Farnham to grow, and on his healthy soil it has done admirably, and is producing a fine crop of seed. Treated as a tender annual, the seed being sown under glass in March, and the seedlings transplanted to the open ground at the end of May, they soon bloom profusely, and continue to do so up to the end of September. The habit of the plant is not unlike that of the yellow Erysimum, but the flowers are much larger, the colours are extremely beautiful, and very varied. This annual must soon become extremely popular, for it is easily grown, and for the size of its blooms has no rival in beauty as well as in variety of colouring.—D.

— **CARNATIONS AS ANNUALS—A NEW RACE.**—Mr. Herbert, of Messrs. Thomson & Co., last autumn crossed one plant of a Marguerite Carnation with pollen from Robert Houlgrave, scarlet bizarre, and sowed the seed in February of this year. Eight plants, the result, are now flowering. One, a self scarlet, of which I enclose petals, is a very great improvement, the flower covering the accompanying card without dressing. I look for a new race of Carnations from this strain, charming well-shaped pot plants, easily grown in 48-pots from seed sown in February, and now in bloom. The Marguerites are not tall growers, and have an erect habit, bearing the flowers on stiff stems. I will send you fuller notes shortly, as two or three very promising seedlings are only just opening their buds.—W. D. [The petals are of great size and substance. We shall hope to hear more of this series of crosses, as they are likely to give us a very useful class of plants for treatment as annuals.]

— **DEATH OF A NORTHUMBRIAN GARDENER.**—It is with regret that we announce the death of Mr. James T. Pringle, of Benton Hall, Northumberland, which took place suddenly on the 8th inst., at the early age of forty-two. The deceased had filled the position of head gardener at Benton for the past thirteen years with every credit and success. He was a devoted gardener in every branch, but his favourite flower was the Chrysanthemum, which he cultivated with skill, and gained many prizes. He has left a collection of fine healthy plants, and had he lived they would have done him credit at the forthcoming shows. He was a very kind hearted and genial man. His untimely end will be read of with regret by a large circle of gardening friends, by whom he was much respected.

— **STATICE LIMONIUM VAR. SMITHI.**—Although the Sea Lavender, *S. Limonium*, is common enough on some parts of the English and Scotch coast lines, and is extremely pretty, yet its cultivated varieties far exceed it as ornamental garden plants. The variety *Smithi* has stout radical leaves, often a foot long, narrowed into a stalk at the base; very dark green. The small purplish flowers are produced on much-branched spreading corymbose panicles, growing 2 to 3 feet high. A plant 18 inches across will produce twelve to eighteen spikes of flowers, and these if lightly staked out will form a fine head of flower 3 to 4 feet through, making a splendid plant for a large rockery. Amongst cut flowers few last so long as *S. L. Smithi*. A large plant is flowering on the rockery at Chiswick, and some may be seen at Kew.—C. K.

— **BOURNEMOUTH AND DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.**—There was a good attendance of members of this Society at the last meeting to hear a paper on Vegetables for Exhibition, which was read by Mr. G. Garner, gardener, Amberwood, Christchurch. Mr. Garner dealt principally with the varieties found on the exhibition table, and gave many practical hints on how to grow and show them. He was accorded a hearty vote of thanks for his excellent paper, which was rendered more interesting by an exhibition of six varieties of vegetables, a good display being made, and first and second class certificates awarded. Mr. G. Shave, Higham, occupied the chair, and a hearty vote of thanks was given to him at the close of the meeting.

— **PINE APPLES FOR PROFIT.**—English-grown Pine Apples have been in demand this season, and the prices, for the first time during many years, have proved remunerative to the grower; in fact, this fruit has been the most profitable of any other grown for sale in a large establishment from which the produce is disposed of in the markets. The supply has been inadequate to the demand, several tempting offers at fancy prices having to be refused in consequence of six large houses, formerly devoted to Pine Apple culture, being converted into vineries and Peach houses, the produce of which has not been half as profitable as that from the six structures still employed for growing Pines. It is pleasing to record a change in public taste for home-grown fruit, which is not only more taking in appearance, but vastly superior in flavour to that imported—G. A.

— **FRUIT CULTIVATION IN THE BAHAMAS.**—In his latest report to the Colonial Office, the Governor, Sir Ambrose Shea, states that the Bahamas offer great inducements for fruit growing. Pine Apples are at present the principal crop, but the particular description of land required for their culture is a limited quantity. Of late years the growth has been much improved by the use of fertilisers, with a considerable increase of quantity. The crop yields large profits. At 2d. each an acre of Pine Apples returns £40 to £45, and though precarious from its perishable nature, while such results are possible, it will continue to be an attractive pursuit. The Governor does not, however, desire to see it extended, as the sole means of the cultivators, beyond its present limits; for the increasing competition of Cuba and Jamaica is a further element of insecurity in the future of this industry. In Oranges a good business might be done if the accounts of Florida enterprise in this fruit are a fair criterion. At present the Oranges of the Bahamas are roughly handled, being generally shipped in bulk in vessels' holds, and often without compartments. The fruit is equal to any in the world, and when for the most part it receives no attention the result of careful cultivation could not fail to be remunerative. The facilities for production are fully up to those in Florida, and the colony is entirely free from all risks of frost, which so often blights the Florida crop. The success of the industry in this colony would be partial, however, until the proper system of packing were adopted to insure delivery at market in good condition. With this point secured and the advantage of steam

communication, which is fast becoming available, Orange-growing should be a profitable source of employment. Tomatoes are grown to a moderate extent, but the production might be largely increased, and when more intelligent enterprise from abroad, of which the prospect is now encouraging, is brought to bear on the various opportunities for steady money-making in the colony, its history will become distinguished for more than the transformation its famous fibre is effecting. It is to be regretted, the Governor remarks, that of the many young Englishmen who embarked in Orange-growing in Florida, with chequered results, and of those also who sought their fortunes in South America, some at least had not found their way to this colony, where energy and thrift, applied to the varied resources, can hardly fail to be rewarded, and where personal rights and property are under the protection of British laws and administration, a consideration to which the history of the southern republics during the past two or three years has given striking significance.

— **DATURAS.**—It is almost surprising that these plants are not more largely grown, considering how easy they are to cultivate and how useful they are for general decorative purposes when well managed. They thrive well against pillars or planted out in beds or borders of large conservatories, and may be grown either as large bushes or dwarf trees. If they are desired to be grown in moderate sized houses the best plan to adopt is to grow them as standards. Cuttings taken from the old wood, when they have grown 5 or 6 inches in length, in the spring root freely; these should be grown till they have attained a height of from 4 to 5 feet, when the main stem should be stopped, the object being to encourage branches to break out for the purpose of forming a head, which they will very quickly do. Three or more of the strongest shoots should be selected, and should be pruned back annually to where the leading branches originate. The best time to prune is in the autumn, when the plants are at rest.—G. P.

— **HELIANTHUS SOLEIL D'OR.**—This is undoubtedly an improvement upon *H. communis* fl.-pl., of which it is a variety. The flowers are more freely produced, the florets more erect, and there are not so many of them in each flower as in the type. The colour is brighter, too, which renders it more conspicuous in the border. This variety forms a good contrast to *Dahlia Glare* of the Garden when planted with it; indeed, it can be employed in a variety of ways in flower garden arrangements. We have it in a mass in the centre of a bed, and for hiding a low brick wall on the northern side it succeeds capitally. Mixed with single and Cactus Dahlias at the back of a border in front of a Holly hedge, it is a good feature; in fact, it is amenable to any reasonable treatment. The best way to secure a stock of plants for summer use is to lift the roots in the autumn, laying them in in some sheltered place, say at the foot of a south wall, in light sandy soil, dividing them in the spring, planting them in a temporary turf pit in good soil. By this means the crowns escape the attacks of slugs, which they are subjected to if they remain in the border all the winter.—E. M.

— **THE IMPURITIES OF TOWN AIR.**—This subject is one in which town and suburban horticulturists cannot fail to take considerable interest. Dr. G. H. Bailey, of Manchester, is reported in Symons's "Meteorological Magazine" to have said that during the past twelve months the Air Analysis Committee of Manchester, in conjunction with the Royal Horticultural Society, had been engaged on the analysis of the air of large towns. Much information as to the carbonic acid in the air having been collected by previous observers it had been thought desirable to devote especial attention to sulphurous acid and organic matter. Since the object was not merely to collect data, but to lay the foundations of what may be termed chemical meteorology, the atmospheric conditions prevailing at the time of the observation had been noted. From the results of several hundreds of analyses carefully conducted in London, Manchester, and Liverpool, the following conclusions had been drawn:—(1) That in clear breezy weather the amount of sulphurous acid is less than 1 milligramme per 100 cubic feet of air; (2) that in anticyclonic periods it rises very considerably, and in times of fogs, maxima of 34 and 50 milligrammes have been recorded for the worst districts of Manchester and London respectively; (3) that wherever an open space or a less densely populated area occurs, there is a very marked diminution of the amount of impurities in the air; (4) that an increase in the amount of sulphurous acid is accompanied by at least as large an increase in the amount of organic impurities in the air; and (5) that smoke, promoting as it does the formation of fog, and preventing free diffusion into the upper stratum of air, must be regarded as the principal cause of the impure state of the atmosphere in large towns.

— **THE CAUSE OF APRICOT BRANCHES DYING.**—I do not always look over the *Journal* directly it comes in (though I feel I ought to do so), and it happens that I have not noted till to-day the report of the Conference on Apricots and Plums, published in the issue of September 1st. Some conversation took place relative to the dying off of Apricot branches, and explanations were given with regard to this. I may remind you that we had sent on some years ago specimens of the Apricot, the wood of which had been mined by the caterpillars of *Sesia myopæformis*, well known as a foe of the Apple and Pear, specially the latter, and living both in the trunk and boughs. Previous to that the insect had not been noticed on the Apricot. I expect it does occasionally infest it, and the instance recorded was not a solitary one. This, then, would be another possible cause for the dying off of the branches of Apricots: the signs of the presence of the larvæ might be overlooked. I should not think, however, the insect would be found on Apricots under glass.—ENTOMOLOGIST.

— **DURHAM FLORAL SOCIETY.**—The twentieth annual Exhibition of the above Society was held in the New Markets and Town Hall of the ancient city on September 13th and 14th. The Show was a good one all round, competition being keen, and the entries numerous. This Society is making steady progress. It is under the patronage of the principal gentry of the district, and has a good working Committee. Unfortunately the Secretary was indisposed during the Show time, but a good substitute was found in G. H. Procter, Esq. Plants in pots, open to all, brought forth some good competition in the various classes. Some fine specimen *Ericas* were exhibited. The table decorations were superb; the bouquets and sprays were grand. The same may be said generally of the principal classes for cut flowers. Fruit was excellent; so close were those entered for the principal prizes that the judges were compelled to award equal firsts. Grapes were good and well coloured, while Peaches, Nectarines, Apples, Pears, and other fruits were fully up to the standard. Certainly they can grow good vegetables in the district, for those sent both by cottagers, amateurs, and professional gardeners in the district were superb, and they were also well staged, reflecting great credit upon the numerous competitors. The Show was well attended, and we are able to record a satisfactory meeting of this Society for 1892.

— **ONIONS AT BANBURY.**—The annual Exhibition of Onions at Mr. Deverill's Royal Seed Stores, Banbury, in competition for the handsome prizes offered by him, was held on the 15th and 16th inst., and a remarkable show it was, all the stocks being well represented by exceptionally fine bulbs. Over ninety dishes were staged, which comprised considerably over 1000 bulbs, twenty specimens being required in two classes. Very many dishes that did not gain a prize would have been an easy first at many of our leading shows. Class 1 was for the best dish of twelve bulbs of the following varieties:—Rousham Park, Anglo-Spanish, Royal Jubilee, Lord Keeper or Advancer. The first prize was easily won by Mr. Kneller, gardener to W. S. Portal, Esq., Malshanger Park, Basingstoke, with a very fine lot of Anglo-Spanish, weighing 22 lbs.—an unusual weight for this variety; several of the bulbs measured more than 18 inches in circumference. This dish also secured the gold medal offered for the best dish of Onions in Classes 1 and 2, beating Mr. Bowerman's larger and heavier dish of Ailsa Craig in Class 2, which weighed 4 lbs. heavier, but were not so good in quality, needing more time. Mr. Wilkins, gardener to Lady Theodore Guest, was second with Rousham Park, weighing 18 lbs. Third, Mr. Copp, gardener to J. S. W. S. Drax, Esq., Holnest Park, Sherborne, Dorset, with Lord Keeper, weighing 18 lbs. Mr. Pope, Highclere Castle Gardens, Newbury, was fourth with the same variety, weighing 17½ lbs. Class 2 included Deverill's Ailsa Craig, Deverill's Cocoa Nut or Original Excelsior. Mr. Bowerman, gardener to C. Hoare, Esq., Hackwood Park, Basingstoke, was an easy first, showing Ailsa Craig, weighing 26 lbs. Mr. Wilkins was second with the same variety, weighing 23½ lbs., and Mr. Pope third, also showing Ailsa Craig. Mr. Lye was awarded a special for a very pretty dish of Original Excelsior, weighing 20 lbs., a very clean, bright-looking Onion. Class 3 was for twenty specimens of that good-keeping Onion Deverill's Improved Wroxton. Mr. Wilkins was first with a good even dish, weighing 26½ lbs., Mr. Pope second, his exhibits weighing 23 lbs., and Mr. Lye third. Class 4 was provided for cottagers, allotment holders, and mechanics, the Onions to be selected from Deverill's Main Crop, Deverill's Improved Wroxton, or Improved White Spanish. Mr. Moss of Hackwood was first with Main Crop, Mr. Winfield of Shutford second with White Spanish, and Mr. Bliss, Church Lane, Banbury third with the same variety.—VISITOR.

JOTTINGS ABOUT LONDON PARKS.

REGENT'S PARK.

It has been said that the bedding in Regent's Park is hardly up to its reputation this year, but my experience hardly corroborates this assertion. The second week in September is not, as a rule, the time of year to see summer flower gardening at its best, but if the bedding in this Park has been better than it is now, the display must have been wonderful. Some delightful arrangements are to be seen there. The plants in the whole of the beds seem to have grown too with greater vigour than in many other parks, and the majority of them at the time of my visit were flowering profusely. Tuberous Begonias are a decided success; in none of the parks are they so good this year as there. Several beds and narrow borders are filled with them, and the plants have not only made remarkable growth, but are flowering exceedingly well. In several beds they are associated with *Alyssum variegatum*, the light foliage of the

shape, about 12 feet in diameter. There is a vase filled with drooping pink Ivy-leaved Pelargoniums in the centre. Around the vase and over the whole surface of the bed small Palms and Golden Treasure Fuchsias are dotted, the groundwork being filled in with *Lobelia pumila magnifica*. The latter is a mass of bloom and blends beautifully with the other plants. An edging of *Echeverias* completes the arrangement, which in every respect is unique.

The beds of Cockseombs and *Celosia plumosa* are also excellent, indeed it is seldom that these plants are seen to such advantage in the open air. Many of them are not only fine specimens as regards size, but most brilliant in colour. For producing an effect in the flower garden during the autumn they are obviously admirably adapted, and might with advantage be similarly used in private establishments. Besides being used in beds there are some bold masses of Cockseombs in prominent positions on the borders, where they produce a remarkably fine display. It would seem that an effort to produce an autumn



FIG. 36.—MESSRS. CARTERS' POTATO DISEASE EXPERIMENTS.

RIGHT SIDE, DRESSED WITH *BOUILLIE BORDELAISE*, UNINJURED; LEFT SIDE, NOT DRESSED, DESTROYED BY THE DISEASE.

latter making a charming combination with the brilliant flowers of the Begonias.

In addition to the large beds of Pelargoniums there are some charming arrangements of a less vivid nature. Heliotrope is used with good effect, some beds of it being very fine, and the majority of these are edged with *Cineraria maritima*. The white foliage of the latter harmonises well with the dark green leaves and purplish flowers of the Heliotrope. A few similar beds would have a good effect in a private garden. Carnations, too, are a pleasing feature here, a bed of Raby Castle making a charming effect. This is a lovely pink Carnation, and even at this late period the plants are laden with bloom. Notice of this fact should be taken, inasmuch as it may help to remove the impression that Carnations are unsuited for bedding purposes owing to their comparatively short period of flowering. The plants alluded to have apparently been in bloom since July, and appear as if they will continue flowering long after the tender things are blackened by frost. Many other hardy plants are also used here for bedding purposes. Several beds are planted with *Campanula carpatica*, Palms and *Anthericum variegatum* being dotted amidst the *Campanula*, and edged with *Mesembryanthemum cordifolium variegatum*. The result is a delightful effect. Another pretty arrangement is deserving of notice. In this case the bed is circular in

show of bloom is made in Regent's Park, and not without success. A bed filled with yellow Chrysanthemums, edged with Mrs. Pollock Pelargonium and *Gazania splendens*, is very showy, and the same may be said of another planted with orange and crimson Celosias and *Dactylis glomerata marginata*. A noticeable feature is that many of these beds are edged with London Pride (*Saxifraga umbrosa*). Zinnias and Stocks are also employed in the beds with good effect.

Fuchsias are very fine. There are many large beds planted with them, and large specimens are dotted on the grass. In each case the plants are laden with bloom, and make a grand display. Vases filled with foliage and flowering plants are also deserving of notice. The borders are also exceedingly showy just now, there being some grand masses of Asters, Helianthus, Gladioli, *Sedum spectabile* early flowering Chrysanthemums, Dahlias, and other autumn-blooming plants. The results of planting in large groups may be seen to advantage, and the system is well worth imitating in private gardens.

DULWICH PARK.

Notwithstanding the new appearance which must necessarily be a prominent characteristic of a recently laid out open space, Dulwich Park can justly claim to be one of the most beautiful lungs

of South London. There is a charm about the whole place quite its own. Bedding in the generally accepted term is not a strong feature so far as quantity is concerned, but what there is is well done. Many of the beds, moreover, are models of judicious contrasts and pleasing harmonies.

Mixed beds are particularly good. Near the entrance from Dulwich village there is a singularly effective bed. This is planted with crimson tuberous Begonias and white Violas, amongst which are fine specimens of the variegated Maize. A ring of *Iresine Lindenii* and another of *Mesembryanthemum cordifolium variegatum* complete the arrangement. It is one of the most beautiful beds I have seen this season. Near to the last named a mass of variegated *Abutilons*, with which Fuchsias and blue Violas are mixed, make a fine display. This bed is edged with Golden Treasure Fuchsia, an attractive yellow-leaved dwarf growing variety, admirably adapted for edging purposes, and it seems to be a favourite in the parks. Another bed filled with pink Ivy-leaved Pelargoniums and yellow Violas, around which rows of *Iresine Lindenii* and *Cineraria maritima* are planted, is most effective, and the same may be said of a mixture of Fuchsias, Petunias, and Lilliums. The Fuchsias in the latter instance are full of flower and in harmony with the Petunias. Rows of *Iresine* and Golden Treasure Fuchsia complete the bed.

In addition to those mentioned there are the usual masses of Pelargoniums, and amongst these Violas are planted with good effect. As an example, a bed of white variegated Pelargoniums and blue Violas shows up well, and so do the white Violas with pink and scarlet Pelargoniums. These mixtures are worthy of imitation. The few examples of carpet bedding are also deserving of notice. They are simple in design—a good feature, by the way—and charmingly arranged, the foliage being particularly bright and effective. Clumps of foliage plants, such as *Acacia lophantha*, Cannas, and Eucalyptus planted on the grass are likewise effective and a distinct feature.

The borders in this park are very fine. There are not merely two or three, but a large number of them, such as may generally be found on the margins of newly formed clumps of shrubs, and all of them are now gay with autumn flowers. The huge masses of perennial Sunflowers with their bright yellow flowers are most effective, while scarcely less can be said of the fine clumps of *Nicotiana glauca*. Some groups of *Hyacinthus candicans* planted among dwarf Rhododendrons are particularly effective, as also are colonies of *Gladioli* amidst Roses. In some borders there are many fine China Roses, and the whole of these are at the present time flowering most profusely. They are very effective, and afford ample proof of their adaptability for general decorative purposes. Would that there were many such similar clumps of these beautiful Roses in every private as well as public flower garden. They are among the first to bloom, and certainly the last, often in mild autumns continuing to produce their brilliant crimson, pink, and white flowers until November has set in. It is almost impossible to over-estimate the value of these Roses for garden decoration, and as seen now in Dulwich Park they are worthy of all that can be said in their favour.

Still another feature remains to be noticed—namely, the rockeries. These are numerous, and are well arranged. The second week in September is not, as a rule, the best time to see alpine and other rock plants, inasmuch as the majority of them bloom in spring, but it is refreshing to turn from the glare of the plants in the other beds to the green masses of Sedums and Saxifragas on the rockeries. For developing this feature Mr. Moorman, the able superintendent, deserves the congratulations of all lovers of hardy flowers. It is gratifying to see such onward strides, and it is to be hoped that even greater progress in this phase of flower gardening will be made in public parks and gardens. The eye soon tires of the glare of colour produced by masses of Pelargoniums and similar flowers, as well as of the stereotyped carpet patterns; but as regards the delightful greenery of the ever charming rockery one never grows wearied.—C. C.

BEGONIAS AT FOREST HILL.

DEVOID of all capacity to appreciate beauty must be the man who could gaze, not merely for the first but for the fiftieth time, upon the truly grand show of Begonias now to be seen in full bloom at Forest Hill without admiration. If Messrs. J. Laing & Sons have obtained a world wide reputation for these flowers, at least they have worked hard to deserve it. Where else in the kingdom can be seen a more beautiful sight than is presented in some probably quarter of a million of seedling plants in rich bloom, covering fully 2 acres of ground, and growing just as freely and luxuriantly as Cabbages? Great as is the area of ground, still is it needful to crowd the plants, for they are in rows about 12 inches apart, and are about 7 inches asunder in the rows. Even in mentioning that there are 2 acres of ground planted with Begonias it is hard to convey an adequate conception of the beautiful show made. Really it is one of those sights which should be seen to be realised. From the main road the beds run parallel with the chief pathway for a length of 180 yards. There are twenty-two of these beds, each containing seven rows of plants. The one near the nursery path is a mixture, then comes one of rose tints, then two of orange scarlet, next one of golden bronze, then come two yellows, following are one red and two white, then single beds of crimson, salmon or apricot; yellow, and pink, and seven other beds planted half of one colour lengthwise and half of another. Beyond these run a large number of short cross beds, including myriads of fine doubles.

In several houses there is a splendid show of plants, so gloriously beautiful and of such rich and varied colours, the flowers, too, in many cases of such enormous size, that one realises after all how poorly even may the finest of gold medal groups convey what a visit to Forest Hill displays.

One of the most remarkable features of the myriads of seedlings is found in the high average of constancy to colour they show. Some beds seem hardly to have a diverse colour in them. There is more variety in the golden, bronze, and yellow hues, but still all pertain to the section. In the matter of show the richest or most striking effects are got from the white, pink, or rose, scarlet, and crimson hues, especially the singles; indeed the doubles seem better fitted for house or pot culture than for exposure to rough weather; still, they are beautiful apparently in all weathers. These have this season given a fine lot of yellows. Seedlings of doubles reproduce about 50 per cent. doubles, and all singles are thrown away. In both sections second year tubers make the best bedding plants, and give fine sturdy plants, but are still better the third year.

It must not be concluded that if Messrs. Laing can thus raise hundreds of thousands of seedlings anyone can raise even a few. All may try, but all are wiser if they will also purchase selected tubers, especially if they wish to bed them in colours. Those who wish to see this Forest Hill feast of Begonias should lose no time in carrying out their intention.—A. D.

WE had anticipated the advice given in our correspondent's communication by visiting Forest Hill before it reached us, and agree with him that a more brilliant and wonderful display of floral beauty cannot be found than is now to be seen at Messrs. Laing's nursery, which, it may be mentioned, is best reached from Catford Bridge station, though it is not more than a mile from Forest Hill. In the article, "Progress in Begonias," a few weeks ago, the latest developments in quality of flower and habit of plant were so fully dealt with that it only remains to make a brief study of the plants as turned to bedding purposes, and see how their points of merit tell in the open air. Beyond doubt there is much ground for admiration. Apart from their intrinsic beauty, it cannot but be noted with pleasure how well qualified the plants are to hold their own, and give fine effects, unsupported by companions of any other class. This is not a question of quantity. Were there but a fraction of the 400,000 plants now bedded out in the Stanstead Park nurseries, the quality indicated would be still observable. It is not suggested as desirable that this feature should be pushed to an extreme consummation and flower gardens adorned with Begonias alone, but they may always form a feature in beds to themselves if so desired. There is a luxuriance of growth about them that in most plants would be accompanied by imperfect blooming, but they produce flowers both abundantly and of high-class quality, imparting rich, bold, and satisfying effects.

That it would be unwise to rely on seedling plants altogether for a summer display in the flower garden has been well proved this season, for they have been somewhat late in getting into the best condition. Possibly it has been somewhat too dry for them, and a little more moisture would have insured their coming into full bloom earlier. Now that they are at their best, however, there is no gainsaying their exceptional beauty. Their dwarf growth and abundant foliage prevent any suspicion of gaudiness, even in the brilliant scarlets, glowing crimsons, and bright yellows that abound. The close mantle of green acts as an admirable foil, and they are not so near the eye as to stare one out of countenance. The scarlets are undoubtedly the most effective. "A. D.'s" remarks preclude the necessity of any indication of the range of colour observable, or of the method and scale of planting, but a few varieties may be noticed. Of scarlets two of the best are Lord Hillingdon and J. W. Wilkinson, the former in particular, a light scarlet inclining to orange, being a most vivid and striking variety. As a bedding Begonia it would be very hard to excel it. Of the crimsons H. M. Stanley and Sir Thomas Paine are the best. The former is very conspicuous, the long lines of richly coloured flowers being quite imposing. Mrs. Milner, a carmine with white centre, is also effective. The rose and pink shades hardly tell so well, but they are very beautiful nevertheless, and will bear close individual inspection. Gigantea is very fine indeed. Lady Pigott is of a distinct salmon shade, and Duchess of Leinster a light yellowish orange, both being excellent varieties. Of whites Lady Scott is perhaps the pick, the flowers being substantial, well thrown up, and very pure.

When it is remembered that all the plants bedded out on this enormous scale are seedlings raised in January this year it will be perceived what an invaluable plant we have in the Tuberous Begonia as a bedding plant. It may be treated as annual, and what other annual is there to compare with it? Beautiful as it is there is no doubt whatever that it will be still further improved. Messrs. Laing & Son have men constantly at work amongst the plants marking the best varieties, and if these are examined it will be found that they have stouter flower stems than their fellows, and often larger, smoother, more rounded flowers as well. The latter points are desirable, but the first is the most important. After all that has been done there is still room for improvement in the direction of longer, stiffer, and stronger flower stems. We have no doubt that it will come. Messrs. Laing have so well proved their capacity that the fact of their being alive to a requirement may be taken as a sufficient assurance that sooner or later it will be provided.



AN OLD GROWER ON THE EARLY VARIETIES.

IN our report of the Show of early Chrysanthemums at Leicester last week we referred to the paper on this valuable section read by Mr. W. K. Woodcock of Barkby Road, Syston, an old and experienced grower, and we now have pleasure in publishing it. After a few appropriate introductory remarks the author proceeded as follows:—In a paper read by Mr. W. Piercy before the National Chrysanthemum Society on September 11th, 1889, it is recorded that as far back as 1817 the London Horticultural Society offered a medal for early flowering Chrysanthemums, with what success is not now known, but the fact of such a medal being offered points to the probability that some were even then known and grown. It is also stated that Mr. Broome, then of the Temple Gardens, and one of the foremost cultivators, published in 1858 a little book upon the Chrysanthemum, in which he mentions thirteen sorts, amongst them being two which are still cultivated—viz., Dr. Bois Duval (which has two other names, Little Bob and Scarlet Gem) and Frederick Pélé, the latter still being one of the very best in its colour.

One of the first to take up their cultivation in earnest was the late Mr. Alfred Taylor of Fencote, Bedale, Yorkshire. In the "Gardeners' Magazine" for December 6th, 1873, he gives a report of the trial culture of a number of varieties, more or less early, and states that six varieties proved quite a success—viz., Jardin des Plantes (resembling Little Bob), Little Bob (maroon crimson), Illustration (pink), Scarlet Gem (scarlet), Gold Button (semi-double, white with yellow centre), and Mexico (white). Another of the pioneers in their culture was the Rev. F. Freeman, Vicar of Wickersley, Rotherham, and formerly of Middleton Vicarage, Leeds, who by his writings upon the subject in the paper named, caused much interest to be felt in them, and gave considerable impetus to their culture. I myself first became acquainted with summer flowering Chrysanthemums in 1881. I was then in charge of the Finsbury Park Nurseries, which comprised a small florist's nursery, with a considerable jobbing business attached, and made the acquaintance of George Martin of Stoke Newington, who had a similar nursery and business, and who made somewhat of a speciality of their culture, selling large numbers of them, dwarf sturdy plants in 48-size pots, flowering freely, in August and September. The sorts he then grew were Mammon (still one of the best early whites), Precocité, Jardin des Plantes, Illustration, Fred. Pélé, and Madame Piccol (Mr. W. Piercy is a red sport from the latter.)

In 1882 I returned to Sheffield to take charge of Oakbrook Gardens, and there found, in a neglected condition, stock plants of most of the varieties named above, which I at once set about cultivating in the best manner I could. In 1883 I received from my old friend, John Thorpe, formerly of Leicester, but then of Queens, New York, U.S.A., a large consignment of new American varieties, one portion of these being for Mr. Cannell, another portion for Mr. W. Bull, a third portion for Mr. W. Piercy, and the remainder for myself. The forwarding by me of Mr. Piercy's portion of the consignment led to a correspondence between us, which ended in his adding largely to the collection I then had. Amongst the varieties Mr. Piercy then sent to me were Salter's Early Blush, a very early and excellent dwarf free-flowering pink; Lyon, an excellent early dark Pompon; Fiberta, a charming yellow Pompon; St. Crouts and White St. Crouts, the latter a sport from the former. Mr. Piercy received the first-named in 1878 from a Mr. Kelman of Crouts, Guernsey, and hence it was named by him St. Crouts, but I believe it had previously been found by the Rev. F. Freeman in the gardens of Saddington Rectory, Leicestershire, and grown by him under the name of Saddington, so that it is now occasionally met with under each of these names. I also received Mrs. Cullingford, one of our most useful early whites; La Petite Marie, a very dwarf free-flowering white; Mdle. Jolivart, an excellent white Pompon, imported from France in 1881; and Flora, which had only that season been sent out by Mr. Ware of Tottenham under the somewhat paradoxical name of "Early Late Flora."

Madame Desgranges I had obtained a year previously from Mr. Cannell. This immensely popular variety, which, more than any other, has caused early flowering varieties to become generally popular and everywhere cultivated, was discovered growing and flowering in a lady's garden in Wales in 1879 by Mr. Robert Parker, then of the Exotic Nursery, Tooting, Surrey, and was sent out by him in 1880. The following year a controversy arose as to whether Mr. Parker had been justified in terming it a new introduction, some stating that it was an old French variety, which had been catalogued by French nurserymen several years previous to his introduction of it, but these statements were, I think, never verified. As is, I suppose, tolerably well known, G. Wermig and Mrs. Burrell are both yellow sports from it, whilst Mrs. Hawkins is a sport from G. Wermig. This sport appeared in four places almost at the same time. More recent valuable introductions are Blushing Bride, imported from France in 1885; Alice Butcher, a very valuable sport from Lyon; and Miss Davis, a pleasing pink sport from Mrs. Cullingford. Mrs. J. R. Pitcher was raised by Mr. J. Thorpe, and

was included in the consignment I received from him in 1883, which I have previously mentioned. Mr. H. Jordan has in past seasons grown this fine variety more successfully than any other cultivator I am acquainted with. Grace Attick, a comparatively new variety, which I believe will yet become very popular, was also raised by Mr. Thorpe, and imported from America by Mr. Cannell in 1887, Mr. Laing receiving a certificate for it in 1889. It is perhaps the earliest of all to commence flowering; cuttings struck in March of this year commenced blooming in June, and will continue opening flowers until October. The flowers are large, pure white, and very graceful. They are most suitable for wreaths, bouquets, table decoration, or any other such purpose, and are produced so profusely as to thoroughly exhaust, and not infrequently kill, the plant. This variety grows freely in summer, but produces weakly cuttings in winter, which are found difficult to root when taken off. Golden Shah is an excellent early yellow Pompon, earlier and a much finer flower than Flora, but the plant is not such a good grower, nor so free in any way. It was raised, I believe, in 1889 at Mr. Ware's Tottenham Nursery from seed saved in England by Mr. Piercy.

During the past two seasons a very large number of early flowering varieties have been raised in France and exported to this country, most of them, however, being what we term October flowering, and therefore scarcely ranking with those I have been commenting upon. Those amongst them which gave me most satisfaction last season were P. Radalli, a white Japanese, very similar to our old friend Madame Desgranges, but purer in colour; Arthur Crepey, pale primrose, otherwise similar to the last; and Madame Foucher de Cariel, a really good and useful decorative variety. The plant is a good and vigorous grower, but very dwarf and bushy; it flowers very freely, and the blooms are of a pleasing and popular shade of colour—orange amber, or, as the ladies term it, terra cotta.

(To be continued.)

GROWING GRAPES FOR PROFIT.

SINCE the publication of Mr. A. F. Barron's book on Vines* in 1883 it has been recognised as the standard work on Grape growing. Its practical and comprehensive character was quickly recognised, and its usefulness to all classes of cultivators was proved by the demand for copies, which subsequently led to the necessity for a second edition. This being exhausted in its turn, a third has had to be prepared, and has recently been issued. In the time that has elapsed since the book first saw the light great changes have taken place. Horticulture in general, and fruit growing in particular, have shared in a marked degree in the general progress of the world. Since 1883 there has been an enormous development in the culture of both indoor and outdoor fruit, and considering that Grape growing is to a very large extent restricted to glass structures of considerable dimensions, necessitating some amount of capital to erect and furnish, its increase is almost phenomenal. Mr. Barron's splendid work has many admirable features, and abounds in practical information on Vines and their management, but there is no chapter in it so full of interest and significance as that in the new edition which deals with the commercial aspect of Grape-growing. It indicates a scale of operations of which the magnitude can hardly be grasped from the statistics supplied, striking though the latter are. To those who have never entered a market establishment it requires a considerable effort of imagination to conjure up the picture of an acre of Grapes, and this represents but a small portion of some of the great establishments to which reference is made. We make a few extracts from the book on this subject as showing the marvellous growth of Grape culture as a business industry, leaving the salient features of this and other branches of culture to be gleaned from a perusal of the book.

GRAPES AND TOMATOES.

The question as to what has led to the rapid growth of Vine culture for profit is one of much interest. Mr. Barron suggests a cause that would not have occurred to many, and supports his view with much force and cogency. "It is important," he says, "to note the causes which have led to this result. Partly, no doubt, it is owing to the introduction into cultivation of good late-keeping varieties of Grapes. Chiefly, however, it is due to the Tomato. Extraordinary as it may at first appear, it is the great popularity and demand for Tomatoes which has rendered the cultivation and the present enormous supply of Grapes possible. Both crops requiring much the same treatment, houses erected for Grapes are at first cropped with Tomatoes, which, producing an immediate return, help the growers to tide over the first two or three years whilst the Vines are getting established; in this way we are provided with a bountiful supply of the most luscious and enjoyable fruit this earth produces."

HOW THE TRADE HAS GROWN.

"The magnitude of the trade in Grapes that has thus arisen is of the utmost importance, and can scarcely be over-estimated. An enormous amount of capital has been called into requisition, and is engaged in the furtherance of this trade. Directly and indirectly many thousands find employment, and are thus benefited by Grape-growing. We do not ourselves know of any industry that can compare, or which has

* *Vines and Vine Culture*. By ARCHIBALD F. BARRON. London: *Journal of Horticulture* office, 171, Fleet Street, E.C.

done so much in so short a time for the welfare of the people. The approximate supply in 1886 of what are termed English-grown Grapes amounted to about 400 tons, one commission agent in Covent Garden (Mr. Monro) disposing of 40,000 baskets, or an equivalent of about 250 tons. During the past year (1891) this quantity has been greatly exceeded. The greatest quantity ever sold in one day was in October, 1891, and amounted to 4 tons = 750 baskets."

WHERE THE GRAPES ARE PRODUCED.

"The chief producing establishments are to be found within a comparatively easy distance of London, so that the fruit may be delivered by van without the intervention of the railway; the Grapes are thus obtained without a blemish in the best possible condition. Several of the vineyards or Grape-growing establishments are of a leviathan character, whole fields being covered with glass, presenting in some parts of the country quite a novel feature in the landscape. Every year these are more and more extended. At the present time the largest growers are probably the Messrs. Rochford, who in their several establishments in the neighbourhood of Cheshunt, Broxbourne, &c., have over 50 acres covered with glass, about one-half of which is planted with Grapes, from which they calculate to produce about 300 tons a year, when the Vines come into full bearing—an acre of ground covered with glass being estimated to produce 15 tons of Grapes annually. Reckoning the value of the crop at 2s. per pound, the gross return per acre thus amounts to £3360. Of other large growers in the London district may be named Mr. Peter Kay, of Finchley; Mr. Ladds, of Bexley and Swanley; Mr. Sweet, of Whetstone; and many others.

"Another great centre for Grape-growing has arisen at Worthing, in Sussex, from whence some 300 tons are sent to Covent Garden every year, and is still extending; the principal growers are Mr. N. Piper, Mr. Bushby, Mr. G. Russell, Mr. Sams, and Mr. Beer. In Scotland also Grapes are largely grown for London markets by Messrs. Thomson and Sons, at Clovenfords, Galashiels; and Mr. D. Beatson, of Kirkcaldy. Of Grapes grown in the Channel Islands, especially Guernsey, the quantity is simply enormous. According to official returns in 1876 the shipments, *via* Southampton, amounted to 50 tons, whilst in 1886, ten years later, the total was over 500 tons, of which one salesman in Covent Garden (Mr. G. Monro) sold on commission over 300 tons, and in 1890-91 about 350 tons. Although the production has very greatly increased, the quantity sent to Covent Garden does not appear so great, increased facilities for transmission having spread the trade in these low-priced Grapes to the provincial towns, Mr. Monro, for example, selling in Manchester, on commission last year, over 80 tons of fruit."

THE MOST PROFITABLE VARIETIES.

In Grape-growing, as in many other branches of commercial horticulture, it is found that success is not to be gained by a multitude of varieties. It is far more profitable to restrict operations to one or two sorts for which a steady demand and fair prices exist. Although the general principles of culture are the same with all, there are certain modifications in treatment which it is only possible to provide in an economical manner by selecting one or two leading varieties and keeping each to itself, then growing it so well and extensively that a small profit per pound on a large bulk of fruit may give a satisfactory aggregate return for the capital and labour invested. "Of varieties grown for market," Mr. Barron says, "the chief for early and summer use, up to the month of December, is the Black Hamburgh; succeeding this, for late use, is the Gros Colman. No other Grapes command the market to any extent. Lady Downe's Seedling, a few years ago, was the favourite late Grape; now it is of comparatively little value. Black Alicante commands a fair price up to a certain period, and Madresfield Court is approved as an early sort. Amongst white Grapes the Muscat of Alexandria is the first favourite, and Buckland Sweetwater second." Probably Gros Colman well grown brings the best prices. When well cultivated this Grape has that rare combination—magnificent appearance and good quality. Medium-sized bunches, with large and perfectly coloured berries, are what dealers require, and market growers turn them out as though from a mould—living pictures of beauty and quality, that invariably command purchasers. The name of Mr. Witherspoon, of Chester-le-Street, is worth adding to those who are named in Mr. Barron's work as having had a large share in the development of commercial Grape-growing. His culture of Gros Colman and Alicante is certainly remarkable.

WILL THE PRICES KEEP UP?

Passing over the information that is supplied on the methods of culture pursued in the great Grape establishments, also on that respecting the important question of keeping fruit, but which must be carefully studied by intending growers, we come to the subject of prices. May they be expected to keep up? will be the question suggesting itself. Mr. Barron gives a negative reply. In the 1887 edition of his work he gave a list of prices for fruit supplied by the well-known Covent Garden agents, Messrs. Webber & Co., which were from 25 to 50 per cent. lower than those in 1876, and predicted that there would be a further decline. The prediction has been fulfilled, "the prices from Messrs. Webber's books of last year (1891) being 25 per cent. lower in every month (excepting October) than in 1886, and the tendency is still downward, although the prices at the present time seem to be as low as it would appear possible for them to pay, even with skill and capital combined.

The chief growers do not, however, trouble themselves much after sensation prices. They base their calculations on the actual costs and gross returns; and argue thus—that to sell a ton of Grapes at 2s. or 3s. per pound is better than, as formerly, to sell a few hundred pounds at 10s. or 20s. per pound—prices which were practically beyond the reach of the consumers. Cheap prices now enable retail fruiterers to maintain a supply on sale at all times, thus increasing the consumption. This fall in prices has a tendency to induce growers to crop too heavily, and in this way the general quality of the Grapes is not maintained."

ENGLISH GRAPES FOR AMERICA.

It would be easy to quote further from this deeply interesting chapter, particularly from what is said on packing Grapes for market, and on the structures in which the great bulk of the fruit now sent to market is grown, but a perusal of the work will afford information on these and other points in procedure that are of prominent importance. We conclude with a gratifying testimony to the quality of British Grapes in the information that an export trade in them to America is growing up. "A great trade in English winter Grapes seems likely to become established with America. During the past two seasons regular consignments of English Grapes have been sent from this country. They have been found to travel well and to arrive in good condition, and prove of superior quality to American produce during the winter season. They are sent by the Cunard steamers, reaching New York about ten days after being cut; some are sold on arrival at New York, whilst others are sent on to Philadelphia, Boston, Pittsburg, Chicago, &c."

It is a little consolation that if home growers of Apples cannot beat the American cultivators, we are able to produce Grapes of the highest quality, and find a market for them in the States.

HARDY FLOWER NOTES.

TANTALISING to the flower grower is the weather of the season. Days of constant rain follow in close succession. Sometimes, fortunately, we have had brighter days, when, as Longfellow says in "Evangeline"—

"Bright rose the sun next day; and all the flowers of the garden
Bathed his shining feet with their tears, and anointed his tresses
With the delicious balm that they bore in their vases of crystal."

All too seldom have these days come. How welcome are they when they appear, both to us and to the flowers, to which they seem to bring fresh beauty! Nothing can quench that beauty, and now it seems enhanced by the past disappointments and by the thought of the coming gloomy winter. There is much to view and to praise.

COLCHICUMS AND SNOWFLAKES.

The Colchicums, or Meadow Saffrons, have begun to open, and in some gardens further inland *Crocus speciosus*, the blue autumn Crocus, has opened its brilliant cups, although with me, where everything is late this autumn, none of the Crocuses are yet above the surface of the soil. The delightful little autumn flowering *Leucoion* or *Leucojum*, *L. autumnale*, is, however, in full flower, and excites much admiration, so delicately beautiful are its tiny pendent Snowdrop-like flowers with their tinge of pink at the base. This is now thoroughly established, and is well worthy of being planted in quantity in mild and favoured localities. A word of warning may not be out of place to those growing this tiny autumn Snowflake for the first time, and that is to take care not to destroy the grass-like foliage when it appears in spring. It is readily mistaken for grass by the careless or hurried weeder. For this chaste little flower a sunny, sheltered position in light soil will be found the most suitable. Mr. Baker, in his "Handbook of the Amaryllidæ," gives its native habitats as "Portugal and Morocco to the Ionian Islands." *L. autumnale* of Linnæus is the *Acis autumnalis* of Salisbury.

LILIUMS.

Several Lilies are now well in bloom, and among the most reliable and satisfactory for the hardy flower garden are still the varieties of *L. tigrinum*, the well known Tiger Lily. The variety *Fortunei* or *splendens* is in many respects superior to the typical form, being taller in stature and having larger flowers. The double Tiger Lily (*L. tigrinum* fl.-pl.) is apparently becoming a greater favourite, and is met with in gardens much more frequently than formerly. It seems of comparatively recent introduction, having been only introduced about the year 1869 from Japan. It appears to me to be the double form of *L. t. Fortunei*, and is later in flowering than the typical *tigrinum*. Its very double blooms are curious and fine, and the ease with which the varieties of the Tiger Lilies may be increased by planting the bulblets which are so freely produced on the flower stems, should enable admirers of the double form to add rapidly to their stock. The price is, however, so low that it seems hardly worth while to wait for these bulblets attaining a flowering size. In some of our works of reference various double Lilies are mentioned, but few of these are seen in general cultivation. I have not as yet met with any of the double forms of the Martagon Lily (*L. Martagon*), or with *L. pomponium* fl.-pl. Several variegated leaved Lilies seem also to be in existence, but these are apparently rare, although the variegated form of *L. candidum* is comparatively cheap.

THE COMPASS PLANT.

Although we seem almost to have a surfeit of yellow flowering composites at this season, one of the most striking for a large garden or the shrubbery is one of the Silphiums or Compass Plants. Longfellow in "Evangeline" speaks of it thus:—

"Look at this delicate plant that lifts its head from the meadow,
See how its leaves all point to the north, as true as the magnet;
It is the Compass Flower, that the finger of God has suspended
Here on its fragile stalk, to direct the traveller's journey
Over the sea-like, pathless, limitless waste of the desert."

It seems strange to think of the poet thus describing any of the Silphiums as a "delicate plant," and speaking of its "fragile stalk." We can only suppose that he had never seen the flower, or that he had another plant in his mind when he wrote. At all events the Silphiums are plants of grand effect in suitable positions. One of these, *S. perfoliatum*, was very fine a few days ago in the garden of Mr. James Davidson of Summerville, Dumfries. It was 7 or 8 feet high, and bore a profusion of flowers. It is, perhaps, a little coarse in habit, but is very suitable for large gardens.

PLATYCODONS.

Very attractive in the same garden was a well-grown plant of *Platycodon Mariesi*, one of the finest, if not the finest, of our autumn-flowering Bellworts. It is rather aptly called the Balloon Flower from the resemblance of the flowers to a balloon, and the fine blue colour, combined with the form of the blooms, will make it an always popular plant. *P. Mariesi* was growing about 1 foot in height. The Platycodons are but seldom met with, even in good gardens, and it is desirable that they should be brought more prominently before the hardy plant grower. The generic name is derived from *platys* (broad), and *kodon* (a bell). There are several species or varieties in cultivation, and two double or semi-double forms of *P. grandiflorum* are still rare, and comparatively expensive. Propagation may be effected by means of seeds or division in spring, and by cuttings of young shoots placed under a handlight in summer. A sandy loam is the most suitable soil.

RANUNCULUSES.

Among the many species of Ranunculuses in cultivation we find a large number of very beautiful plants, and I was much pleased with a beautiful little member of the genus which I saw recently for the first time in the well-tended and interesting garden of Mr. John Burns of Woodside, Giffnock, Renfrewshire. *R. Bertoloni*, as the plant was named, is a very dwarf species, with a beautiful white flower only a few inches above the soil, and it appears to be one of the most desirable alpine species. I have been unable to obtain any particulars regarding *R. Bertoloni*, but I believe it will be found to be of Italian origin. It is perfectly hardy, and was growing well in a good loamy soil. It does not seem to be known to the nursery trade generally, and, so far as I am aware, the stock is in the hands of one or two firms only in this country. In the same garden the tiny little *Arenaria balearica* was grown in a manner I have never seen surpassed, rambling over and covering stones in the most delightful way.

STOKESIA CYANEA.

I spent a few days in the vicinity of Glasgow, and had the pleasure of seeing a considerable number of gardens containing good collections of hardy flowers. In a small greenhouse in the garden of Mr. Watson of Alexandria, N.B., I saw a good plant of *Stokesia cyanea*. It was quite a pleasure to see this pretty flower in bloom again. In Scotland, at least, it cannot be relied upon to flower outside without protection unless pushed on under glass in spring, and then planted out. It is a loss to our gardens that we cannot bloom this *Stokesia* in a natural way; it is so beautiful with its deep coloured Cornflower-like blossoms. *S. cyanea* was introduced from Carolina in 1766, and was named by L'Heritier in honour of Dr. Jonathan Stokes, the coadjutor of Withering in his "Arrangement of British Plants." Doubtless its late blooming habit is the cause of its rarity in gardens.

ROCKETS.

Few things gave me more pleasure than to see the careful way in which the real double white Scotch Rocket is preserved by many of the amateurs around Glasgow. We often have inquiries as to where this is to be obtained, and frequently what is known as the French double white is substituted for the true plant. The Scotch variety is much dwarfer in habit and purer in colour than the other. I had also the pleasure of seeing a still rarer plant, the true double crimson Rocket, a most exquisite flower indeed, but very scarce, and hardly to be obtained anywhere. I need hardly say it is dearly prized by the few who have the happiness to possess it.

But time is flying, and flowers many still brave the breezes. Asters of various shades are now in full display. The bright *Lilium flavum* bedecks the rockery and borders with its brilliant yellow flowers. A number of Heaths are very pleasing with their sober beauty. Gladioli, slowly opening, stand like gaily uniformed sentinels. The silky leaved *Androsace lanuginosa* still shows its pretty and delicate blossoms on the rockwork. Campanulas in variety are still attractive. Showy Montbretias and stately Kniphofias add their welcome colour to the scene, and many other flowers come to welcome the cool breezes of September, and to close brightly the season of flowers.—S. ARNOTT.

HELENIUM AUTUMNALE STRIATUM.

THE number of yellow Composites flowering in late summer and autumn is so great that there is danger of some gardens being overdone with them. Yellow is a colour that requires to be used with much greater care and judgment than are generally exercised if garishness and vulgarity are to be avoided. If only for this reason a hearty welcome would be extended to the beautiful *Helenium* exhibited by Mr. T. S. Ware at the Chiswick Conference on Begonias. It imparts a very desirable break in colour while retaining the hardiness and floriferous character of its relatives. The flowers are about 2 inches in diameter. The disc is maroon and gold, the florets rich red striped with yellow.



FIG. 37.—HELENIUM AUTUMNALE STRIATUM.

Its distinctness was readily recognised, and a first-class certificate—an honour rarely won by a variety of a hardy plant—was accorded. Fig. 37 represents *Helenium autumnale striatum*, which from its rich and distinct colour will be a desirable acquisition for any flower garden.

THE COMMERCIAL VALUE OF ANIMAL MANURES AS NITROGENOUS DRESSINGS.

AN important investigation was undertaken a short time ago by two well-known French authorities, MM. Müntz and Girard, which had for its object a comparison of the value possessed by different manures composed of animal matters in their relation to nitrogenous dressings. This investigation yielded results which may well be carefully noted by practical men; too often scientific investigations result in much literature, but are barren of anything which the practical agriculturist can make use of.

We have known for some time that these nitrogenous materials

cannot be of any service until the nitrogen which they contain is transformed into that state of chemical combination known as the nitrate. Hence the aptitude of organic manures to undergo the process of nitrification by means of the nitrifying organisms which are present in the soil may be taken as a measure of their activity as manurial dressings.

A great many kinds of animal matter were examined by MM. Müntz and Girard, and their relative value as nitrogenous dressings compared, with the result that all commercial manures are divided by them into three classes—viz.,

- A. Dried blood, dried flesh, bone refuse, and guano.
- B. Burnt leather, woollen waste, dried night soil.
- C. Unburnt leather waste.

These different substances were examined by ascertaining the proportion of nitrate formed during a given time by the method of mixing quantities of each substance under similarly comparable conditions, and containing each an equivalent quantity of nitrogen with soil containing nitrifying organisms.

With regard to the members of Class A, MM. Müntz and Girard find that they all undergo the process of nitrification rapidly. Dried blood, dried flesh, bone refuse, and guano are nearly as active as the manures of mineral origin, and they have almost the same effect on the crops that are treated with them as the mineral manures.

The manures which appear in Class B do not undergo the process of nitrification so rapidly as those in Class A, and the result is that their action is usually extended during more than one season, thus nourishing the crop of the next year, though not to such an extent as in the first year.

The third class, which is occupied by unburnt leather waste, only sustains the nitrification so slowly that during the first year there is no appreciable effect upon the crop that is dressed with it. It is evident that unburnt leather should only be used in compost heaps, for the conversion of its nitrogen into nitrate by the nitrifying organism proceeds far too slowly for it to be directly available in nourishing the crop.

Experiments made upon a practical scale (not in pots—a method which agriculturists often view with suspicion) have yielded the following numerical results for the various manures:—

Amount of nitrogen utilised in two years.	Class A	60 per cent.
	" B	40 "
	" C	20 "

MM. Müntz and Girard conclude that the unit weight of nitrogen often costs more when purchased in the form of organic manure than when purchased as saline manures; and they are of opinion that it would be much more reasonable to pay the higher price at which saline manures are placed upon the market, because in this case the nitrogen they contain can be immediately made use of, and—which is by no means the least important consideration—the quantity of manure applied can be fairly accurately arranged according to the particular requirements of the crops which are to be dressed with it.

A rather humiliating confession is made by these investigators when they say that the ordinary chemical methods used in the laboratory cannot be relied upon to give any useful information respecting the relative value of animal manures; in fact, they say that no practical value can be attached to them.—N. T. J. (in *The Agricultural Economist*).

ROYAL HORTICULTURAL SOCIETY.

SEPTEMBER 20TH.

THE meeting at the Drill Hall on Tuesday was one of the best of the ordinary gatherings of the season. Orchids were not, it is true, very largely represented, but there were a few of exceptional beauty, while the general display of plants and flowers was quite above the average. Fruit, too, was splendidly shown, the collections from the Royal Gardens at Windsor and from Sawbridgeworth being very fine. Potatoes from Chiswick were of considerable interest.

FRUIT COMMITTEE.—Present: Philip Crowley, Esq. (in the chair), Messrs. T. Francis Rivers, R. D. Blackmore, W. Wilks, George Taber, T. J. Saltmarsh, A. Dean, J. A. Laing, G. Cliffe, W. Bates, G. Wythes, James Hudson, H. Balderson, G. Norman, W. H. Divers, J. Willard, A. Moss, G. W. Cummins, and Dr. Hogg.

A magnificent contribution came from Mr. Owen Thomas, Royal Gardens, Windsor. It comprised about forty dishes of Peaches and Nectarines, splendid examples gathered out of doors. Barrington, Sea Eagle, Walburton, Princess of Wales, and Prince of Wales Nectarine were particularly fine. There were also excellent dishes of Stone's, Brown's Codlin, Lord Grosvenor, and Frogmore Prolific Apples; Doyenné Boussoch, Autumn Josephine de Malines, and Beurré d'Amanlis Pears; two baskets of *Morus nigra*, a large conical Mulberry; a dish of Quinces, and Nottingham Medlars, twenty dishes of Plums, including one of the Frogmore Damson, a large oval-shaped fruit; fourteen Melons, a dozen grand Smooth Cayenne Pines, fine clusters of Alicante and Raisin de Calabre Grapes, also a basket of Black Hamburgs cut from the Cumberland Lodge Vine, another from the Hampton Court Vine, and a third of the Strawberry Grape, a diminutive fruit. A silver-gilt medal was recommended. Messrs. T. Rivers & Son, Sawbridgeworth, had a very fine contribution, comprising splendid fruit of Sea Eagle, Albatross, Princess of Wales, Nectarine and Gladstone Peaches, also two fine

seedlings, both large and very handsome fruits; Pond's Seedling, Late Transparent, Monarch, and a seedling Plum, Ribston Pippin Apple and a seedling Pear. A silver Banksian medal was recommended for this fine display. Mr. Willard, Holly Lodge, Highgate, was accorded a vote of thanks for a splendid dish of Barrington Peaches grown out of doors; and Mr. Mortimer, Farnham, received a similar recognition for a dish of fruit of *Ribes sanguineum*. The Rt. Hon. Lady Theodore Guest, Inwood House, Henstridge (gardener, Mr. Wilkins), exhibited a dish of Mangoes (*Mangifera indica*), and was awarded a cultural commendation. Mr. Molyneux, Swanmore Park Gardens, Bishop's Waltham, was accorded a vote of thanks for Worcester Pearmain Apples, large and very full of colour. Mr. J. Tegg, Beardwood Gardens, Wokingham, exhibited a good seedling Melon, a round pale yellow evenly netted fruit, orange fleshed, and of excellent flavour (award of merit).

Messrs. Sutton and Sons received a first class certificate for their Prizewinner Runner Bean (see below). Mr. G. T. Bodley, 99, Loughborough Park, London, S.W., sent a collection of Apples grown in a London back yard, some being excellent examples, and a cultural commendation was awarded. Messrs. G. Bunyard & Co. received a first class certificate for Runner Bean, Hill's Prize (see below). Forty varieties of Potatoes came from the Royal Horticultural Society's garden, and four received first class certificates (see below). Awards of merit were made to Crawley Prizetaker (Cheal), a large handsome kidney likely to be good for general use and show; King of the Earlies, a medium sized kidney; Paul's White Round, an excellent round of good size, even and an excellent cropper; and Harris's White Russett. Messrs. Carter and Co. sent growths of the fine Tomato Blenheim Orange, well clothed with fruit (award of merit).

FLORAL COMMITTEE.—Present: J. Fraser, Esq. (in the chair), Messrs. O. Thomas, B. Wynne, R. Dean, R. Owen, G. Phippen, H. B. May, Chas. T. Druery, F. Ross, W. C. Leach, C. F. Bause, J. Walker, W. Bain, C. Jefferies, N. Davis, E. Mawley, T. Baines, C. Noble, H. Turner, G. Paul, W. Watson, H. H. D'Ombain, and T. W. Girdlestone.

Some excellent exhibits were placed before this Committee. Messrs. Dobbie & Co., Rothesay, N., sent a splendid collection of Fancy, Show, Cactus, and Pompon Dahlias, also a number of Fuchsias, Violas, French and African Marigolds, and Antirrhinums (silver-gilt Flora medal). The Dahlias were exceedingly good, and among them were some fine varieties. Two Show sorts, Canary Bird and Conquest, sent out this year by Messrs. Dobbie & Co., were specially good; the first-named is a rich yellow, and the latter a light magenta. An award of merit was adjudged for the strain of French Marigolds shown by Messrs. Dobbie & Co., who also exhibited blooms of a "new" type of single Dahlias, which were passed. Messrs. G. Paul & Son, Cheshunt, had a collection of hardy flowers bright and fresh in appearance (bronze Banksian medal). An effective group of Crotons was staged by Messrs. B. S. Williams & Son (silver Banksian medal). The plants were richly coloured, and made a pleasing contrast to the hardy and other flowers shown. Messrs. J. Laing & Son, Forest Hill, had a group of miscellaneous plants tastefully arranged (silver Banksian medal). They also exhibited blooms of a neat double Begonia named Wm. Allen Richardson made up in sprays. In colour the flowers somewhat resemble the Rose of that name, and are most effective arranged with *Asparagus plumosus* and Fern fronds. Some fine blooms of other double Begonias were likewise shown.

Messrs. F. Ross & Co., Merstham Nurseries, Surrey, staged a plant of *Aristolochia gigas* var. *Sturtevantii*, for which a first-class certificate was awarded. This is referred to elsewhere. Mr. Quarterman, gardener to C. E. Smith, Esq., Silvermere, Cobham, sent a collection of Pine cones, for which a vote of thanks was accorded. Mr. R. Owen, Maidenhead, showed a white Chrysanthemum named Princess May, a seedling from Madame C. Desgranges, and an English seedling designated Harvest Home. Messrs. Perkins & Sons, Coventry, staged several Dahlias, one of which named Matchless was adjudged an award of merit. This is described below. A small group of Ferns came from Mr. H. B. May, Dyson's Lane, Edmonton, and amongst them some choice varieties were noticeable. One named *Pteris nivalis* was awarded a first-class certificate, and is referred to elsewhere. A silver variegated Elder (a sport), shown by Miss Alice de Rothschild, Eythorpe, Bucks (gardener, Mr. Gibbs), was adjudged an award of merit, the foliage being exceedingly pretty. A vote of thanks was accorded to Messrs. Veitch & Sons, Royal Exotic Nursery, Chelsea, for a box of their hybrid *Streptocarpus*.

Dahlias were well represented. Mr. T. S. Ware, Tottenham, staged a few bunches of single varieties. W. Keith, Esq., Cornwalls, Brentwood (gardener, Mr. J. T. West), had a splendid collection of Show, Fancy, Cactus, and Pompon types. Among the latter, two, named Arthur West and Tommy Keith, were adjudged awards of merit. These are described below. Mr. C. Turner, Slough, had a stand of Show Dahlias, and another of Pompons, of sterling merit. One of the Show varieties, named Kathleen, was adjudged an award of merit, and is referred to elsewhere. Mr. A. Rawlings, Romford, staged a fine collection of Show and Fancy varieties, for which a silver Banksian medal was recommended. The flowers were bright in colour, R. T. Rawlings, Queen of the Belgians, George Rawlings, Mrs. Vagg, and Arthur Rawlings being specially good. Mr. S. Mortimer, Swiss Nursery, Rowledge, Farnham, also had a collection of Dahlias, and a bronze medal was recommended. The best of these were Majestic, Maud Fellowes, Lord Salisbury, and John Walker.

Messrs. Reid & Bornemann, Sydenham, showed a white hairy-petalled Chrysanthemum named George Jones, which was apparently passed,

however, by the Committee. Mr. C. Holden, Harwich Road, Ealing, sent a collection of miscellaneous plants, for which a bronze Banksian medal was recommended. A vote of thanks was accorded to Messrs. R. B. Laird & Sons, Edinburgh, for a box of their Keir Prince Carnation, a dark variety. Mr. R. Dean, Ealing, sent a few blooms of *Crocus speciosus*, and Messrs. Pitcher & Manda, Hextable, two plants of *Pteris Wallichiana*.

ORCHID COMMITTEE.—Present: Dr. Masters (in the chair), Messrs. J. O'Brien, S. Courtauld, W. H. White, H. Williams, E. Hill, C. Pilcher, T. W. Bond, F. Sander, J. Douglas, T. B. Haywood, and J. Jaques.

The duties of this Committee were light, not many Orchids being shown. W. Walker, Esq., Brettargh Holt, Kendal, sent two splendid baskets of *Saccolabium Blumei*, each having eight racemes of bloom. A vote of thanks was accorded. Messrs. Hugh Low & Co. sent a collection comprising *Cattleya bicolor* Wrigleyana, *Vanda Kimballiana*, *V. K. delicata*, *Saccolabium Blumei majus*, *Vanda cærulea*, *Cypripedium radium superbum*, *C. Parishii*, and *Dendrobium formosum giganteum*. A vote of thanks was given. Messrs. B. S. Williams & Son exhibited *Oncidium incurvum album*, a white variety of *incurvum*. Messrs. Sander & Co. sent the beautiful *Cattleya aurea*, a plant being shown carrying two fine flowers. The creamy yellow sepals and petals and the large broad crimson lip with the deep golden veins are gloriously beautiful. Sterling plants such as this are always a pleasure to see, whether new or old. Messrs. Sander & Co. also contributed a collection of *Cypripediums*, which included *C. picturatum*, *C. hybridum* Maynardi, *C. h. Eyermannianum*, *C. Chamberlainianum*, *C. radium*, and *C. Macfarlanei*; also *Odontoglossum aspersum*, *O. Harryanum*, *Masdevallia Measuresiana*, *Angræcum bilobum* Sander's variety, *Dendrobium Phalaenopsis Schröderiana*, and others. C. L. N. Ingram, Esq., Elstead House, Godalming (gardener, Mr. Bond), sent *Cypripedium Wendlandianum*. T. Statter, Esq., Stand Hall, Manchester (gardener, Mr. Johnson), sent *Cattleya Statteriana* (first-class certificate, see below); and *C. aurea* Statteriana. The latter was one of the features of the meeting. It was certificated in 1890, but probably many had not seen it, and were very glad of the opportunity to do so. The sepals and petals are of a uniform pale yellow, the side lobes of the lip are of the richest nankeen yellow, the centre of the apical portion is brownish crimson, and lines of crimson radiate into the throat. It is a noble flower. J. Foster Alecock, Esq., North Church, Berkhamstead, sent *Catasetum Bungerothi* with seven flowers (vote of thanks). Messrs. J. Veitch & Sons sent *Cattleya* × *Minucia* (award of merit, see below); and from L'Horticulture Internationale came *Cyrtopodium Alieæ*, *C. maeranthum*, and *Odontoglossum præstans*.

CERTIFICATES AND AWARDS.

Potato, Reading Giant (Fidler).—A very large rough kidney, a very heavy cropper, and a pronounced disease resister. It is a promising market variety (first-class certificate). This and the others to be named have given the greatest satisfaction at Chiswick.

Potato, Mary Anderson (Fletcher).—A long, pointed kidney, medium size, smooth and pale; a fine cropper (first-class certificate).

Potato, Quantity and Quality (Johnston).—A round, rough tuber, somewhat resembling Schoolmaster, very even in size, there being few small ones. It is a very heavy cropper, a good disease resister, and cooks well (first-class certificate).

Potato, The Canon (Dean).—A large flattened kidney, somewhat rough skin, an excellent cropper, and likely to prove valuable either for show or general purposes (first-class certificate).

Runner Bean, Hill's Prize (Messrs. Bunyard & Co.).—A very fine Bean with long even pods. It is a good cropper and received three marks at Chiswick (first-class certificate).

Runner Bean, Prizewinner (Messrs. Sutton & Sons).—An excellent Bean of the Ne Plus Ultra type, having large handsome pods and a heavy cropper. It has received three marks at Chiswick (first-class certificate).

Aristolochia gigas var. *Sturtevantii* (Messrs. F. Ross & Co.).—This is a fine variety. The plant shown was in an 8-inch pot and had one bloom about 15 inches in length and a foot or so in diameter, with a tail some 3 feet long. The outside is a creamy white, a portion of the centre being rich velvety maroon (first-class certificate).

Dahlia Matchless (Perkins & Sons).—A Cactus variety, medium in size, and of a rich maroon colour, the centre petals being very dark (award of merit).

Silver Elder (Mr. Gibbs).—A pretty decorative Elder with white and green foliage, the young leaves being particularly effective (award of merit).

Pteris nivalis (H. B. May).—An elegant Fern, resembling in growth *P. Reginae*, which was figured in these pages a short time ago, but whiter in appearance (first-class certificate).

Dahlia Tommy Keith (W. Keith, Esq.).—A Pompon variety with neat white and dark crimson flowers (award of merit).

Dahlia Arthur West (W. Keith, Esq.).—A Pompon variety with small dark crimson flowers of perfect symmetry (award of merit).

Dahlia Kathleen (Mr. C. Turner).—A Show variety of perfect symmetry, colour soft lilac, creamy centre (award of merit).

Cattleya Statteriana (T. Statter, Esq.).—This is a magnificent plant, and the wonderful size and exquisite colouring of the lip aroused the greatest admiration. It is an imported plant, and probably the only one in the country. Nothing definite is known about its parentage, but it is, no doubt, a natural hybrid, and many of its characters point to a *C. aurea* and *C. gigas* union. The petals are broad and of a dull ivory white, though we are informed that five or six days ago they were much purer

than they are now, having faded somewhat. They are very broad, but recurve so much that the breadth is lost, and are elegantly crimped or fimbriated. The sepals have a faint yellow tinge. The lip is, however, the most striking feature of the flower. It is very long and broad, rounded near the throat, but curving down towards the apex, which is elevated and fimbriated. The apical area is rich velvety crimson, purplish flakes radiating into the throat. The side lobes have the rich nankeen yellow of *C. aurea*. The outer surface of the tube is deeply suffused with carmine, and the charm of the flower is completed by a beautiful rosy carmine feathering round the edge, almost like a heavy-edged Picotee (first-class certificate).

Cattleya × *Minucia* (Messrs. Veitch & Sons).—This is a garden hybrid between *C. Loddigesi* and *C. labiata* var. It is a delightfully tinted flower, the sepals and petals being a glowing rosy lilac, inclining to mauve. The lip is fimbriated and somewhat narrow, the side lobes each having a conspicuous carmine patch. The entrance to the throat is suffused with pale yellow (award of merit).

THE REV. C. WOLLEY DOD ON THE VARIATION OF HARDY PLANTS.

A paper on the "Variation of Hardy Plants under Cultivation," by the Rev. C. Wolley Dod, was read at the afternoon meeting of the Royal Horticultural Society on the above-mentioned date. There was but a small attendance of Fellows, and in the unavoidable absence of the essayist the paper was read by the Rev. W. Wilks. Mr. G. Paul presided.

In opening his subject Mr. Wolley Dod observed that the chances of variation in plants were multiplied when the latter were under cultivation. In a natural state the plants ripened comparatively few seeds, whereas when cultivated the reverse was generally the case. Common sources of error regarding the variation of plants, he said, occur when observations are made carelessly. After many years' experience he was convinced that the common single Daffodil did not develop into a double bloom; neither did the single Primrose change colour through any system of cultivation. Then as to the stature of plants, he had noticed that many seedlings from wild plants showed an increase in height when cultivated in gardens, as, for instance, *Campanula glomerata*; whilst some, on the other hand, degenerate. As to variation of colour, he had seen no real change unless attributable to some other plant; but many of the flowers in the damp soil in his garden varied much. What was a pale blue Primrose in the garden of a friend became a dull red in his soil in Cheshire. The first change of colour was as likely to take place in a wild plant as in a cultivated one, but it would be less noticeable. In the lanes in Cheshire he had seen *Campanula rotundifolia* vary much, also *Veronica spicata* in other places. Regarding the variation of seedlings, the essayist remarked that the white Foxglove rarely gave him a white flower from home-saved seed, neither did the white Harebell. Twenty years ago he planted a white Musk Mallow in his garden, and for ten years the plant produced white flowers; then he introduced a pink-flowered sort, and ever since had been obliged to weed the latter out.

Concerning the fertility of garden hybrids no rule, he said, could be laid down. Some were barren, others fertile. Among the Columbines it was never known what home-saved seed would produce, according to his experience, and the *Dianthus*es were also very variable. *Narcissi* seemed to hybridise in almost every way, but he had never seen a hybrid *Crocus*. As to the cause of some plants producing double flowers, he thought that hybridisation had more to do with this than luxuriant growth. Seedlings of *Michaelmas Daisies* show a tendency to produce double flowers, and *Aquilegias* would also persist in yielding double blooms.

Professor the Rev. G. Henslow, in the brief discussion which followed, said he had long been anxious to find out the real cause of the dwarfing of plants, particularly the product of florists. If gardeners and florists would endeavour to find out the cause it would be most useful. Then, again, no one as yet had settled the actual cause of the production of double flowers. It was, so to say, a form of disease, a destruction of stamens and pistils, but no special reason for this special disease could be assigned. According to his experience rather a dry position tends to produce it. Daffodils and Bluebells introduced from a wild state into his garden degenerated, the latter in many instances producing pink short flowers instead of elongated blue ones as when growing wild.

Votes of thanks to the lecturer and the Chairman concluded the proceedings.

GROWING GRAPES IN NINETY DAYS.

WE have received two letters having an important bearing on this case, and it would appear that more light is still needed. The first is as follows:—"The report which appeared in last week's *Journal* of the paper read by Mr. Gilchrist on "Growing Grapes in Ninety Days," and the discussion thereon, is somewhat incomplete, owing no doubt to Mr. Cowan having to leave in the middle of the discussion. Probably, therefore, the following additional particulars will interest your readers. Mr. Gilchrist said that his employer wished to have Grapes in April, but he was unable to start in November, owing to there being two Vines which were not ready to start in the early house. He closed the house on the 1st of January and applied fire heat, but on the same day the boiler broke down. When it was put in again a tube broke, and altogether he could not get it started till February 6th.

"Then followed the temperatures, &c., which were given in the

Journal. In answer to a number of questions, Mr. Gilchrist said that he attributed his success greatly to disbudding, by which from fourteen to twenty days were gained. The Vine from which the bunch was cut was thirty years old. He thought he could do it again in the same time, but was going to try with pot Vines. He kept his Cinerarias and Camellias in the same house during January. The temperature during that time would be the same as outside with what sun heat could be conserved.

"Mr. Gilchrist was asked for an explanation of the statement made in a paper read before the Society on February 11th, that his Vines were then in bloom. Several members of the Society asserted that they had heard Mr. Gilchrist make this statement. Mr. Gilchrist in reply said that he did not remember making this statement, but if he did say so it must have been a joke. The meeting finally broke up in some disorder owing to the Chairman refusing to put a motion that the discussion be adjourned, and another motion that a vote be taken. The majority of those who took part in the discussion were inclined to doubt the possibility of Grapes being grown in ninety days.—INCREDULOUS."

The second letter is as follows:—"I see Mr. Gilchrist has read a paper on growing Grapes in eighty-eight days before the Sunderland Gardeners' Society. He says he started the house on the 6th of February, and thinned the Grapes on the 28th of March. Now, sir, I saw that he had thinned his Grapes about the end of February, and when up about the middle of March the Vines had finished their first swelling of the berries, so you will see that there is a mistake somewhere.—A LOVER OF FAIR PLAY."



FRUIT FORCING.

Pines.—Suckers.—Those recently started should be raised near the glass as soon as roots are plentifully made, so as to secure a sturdy, thoroughly solidified growth, especially in those intended to be wintered in small pots, bringing them on very gradually, and taking particular care not to give a check by withdrawing them from the bottom heat, or only doing so for a short time. When the suckers started this autumn or late in summer become well rooted, transfer the strongest plants to the fruiting pots at once, draining these well. Employ the fibry part only of sound turfy loam, not tearing it up very fine, but using it in lumps proportioned to the size of the pots; the rougher it is, provided it is made compact in potting, the better the plants will thrive. Jamaicas are apt to become weak and attenuated in growth when grown in large pots; 9 or 10-inch pots suffice for them, and they should not be grown away from the glass, nor be kept very moist and close. Queens succeed in 10-inch pots, or very strong plants may be given a little more root space, say 11-inch pots. Envoies have all their requirements as regards soil supplied in 10-inch pots. This is the best variety to grow for sale, the fruit being of a pleasing conical shape, the pips well and evenly swollen, the colour good and bright, and the crown seldom disproportionate to the fruit. Smooth-leaved Cayenne succeeds in 10 or 11-inch pots, and Providence in 11 or 12-inch pots, the advantages as regards time and corresponding size of fruit being in favour of the smaller size, the fruit being proportionate in these respects to the amount of elaborated matter concentrated in the plants whilst growing and afterwards on the fruit. The small plants should be shifted into 7 or 8-inch pots, in which they must be kept until spring. Plunge the plants in a bottom heat of 90° to 95°, in which they must be continued until the roots have taken freely to the fresh compost, when they may be raised, a temperature of 80° being afterwards sufficient.

Growing Stock.—Young plants require free ventilation on all favourable occasions to maintain them in a healthy sturdy condition, maintaining a night temperature of 60° to 65°, with 5° to 10° more by day artificially unless dull and cold, and keep at 80° to 85° from sun heat. Ventilate early in the day, but not so as to lower the temperature, keeping the bottom heat steady at 80°. Water the plants whenever they require it, employing weak and tepid liquid manure. Avoid the use of the syringe too frequently; sprinkling the paths and other surfaces morning and evening will suffice in all but very bright weather. Fruiting plants should have a night temperature of 70°, with 80° to 90° during the day, closing at 85°.

Figs.—Earliest Forced Trees in Pots.—Those not in large pots, say over 13-inch, should have the roots examined, and, as it is not advisable to increase the pot, a few inches of soil may be removed from the base of the balls. Loosen these a little at the sides to admit of fresh compost; remove the loose surface soil, shorten the roots, and replace in fresh turfy loam with a sixth of old mortar rubbish and a small handful of bonemeal to a peck of soil, thoroughly incorporated. Afford a good watering, and place the trees where they can have plenty of air with shelter from heavy rains and snow, also safety from frost. Trees in large pots that are stood on brick pedestals to prevent their sinking require different treatment. In their case every particle of old fermenting material—Oak or Beech leaves—should be removed, also all the surface dressing from amongst the roots, with a hand fork. After

shortening the strongest roots and attending to the drainage, apply a surface dressing of the compost named, and ram it firmly into the pots. Supply water to settle the soil, and after this keep the house cool, dry, and well ventilated until the time of starting in November or December. This plan is excellent for trees in 18 or 20-inch pots, as it is not only inadvisable to disturb the roots more than can be helped, but the trees can be assisted by building up turves against the brick piers and laying the roots extending beyond the pots in the loam, so that large trees producing enormous crops of fine fruit may be had without planting them out. To trees not in as large pots as desired, and those requiring an increase of root space, a moderate shift may be given, the sides of the ball being loosened with a hand fork, and any straggling roots cut back, those in the drainage being cut clean away. Drain the pots efficiently, employ the soil in a moderately dry condition of the same kind as previously advised, and ram it as hard as the ball.

Succession Houses.—The trees which are ripening off second crops of fruit require lessened supplies of water, not affording any until the soil is getting dry, and not then if the moisture is sufficient to keep the foliage from becoming limp, for that condition must be avoided. Water must also be withheld from the house, except a sprinkling occasionally during very bright weather, a little fire heat being necessary to admit a free circulation of air and prevent damp. Remove all soft and useless wood, thin out where crowded, and when the fruit is gathered cut away the growths that have reached the extremity of the space and are not necessary for next year's bearing. It is absolutely essential that the wood be thoroughly ripened by the exposure of the growths to light and air, and the points of the shoots on which the first crop next year is borne ought to stand well up or out to the glass and light.

Lifting Unfruitful Trees.—This condition is generally a result of exuberance, and is commonly induced by too large and too rich borders. Lifting sterile Fig trees is a certain means of inducing fruitfulness, and should be performed as soon as the leaves have begun to turn yellow. If the trees are very luxuriant, it is a good plan to make a trench about half the distance from the stem the branches cover of trellis, quite down to the drainage, so as to cut off all roots at the trench. This should be done whilst the leaves are quite green, fully a month in advance of the leaves turning yellow, and it will check the tendency to late growth, concentrate the vital forces on the maturation of the wood and buds, often changing the character of these so that they form Fig buds and produce a good crop of fruit the following year. Carefully lift the trees, cut back any strong and long roots, reserving those which are the most branched and fibrous. Good drainage is of paramount importance, and should not be less than 1 foot thick, with a drain to carry off superfluous water; there is nothing better than brickbats and a thin layer of old mortar rubbish over them. Good turfy loam, preferably off calcareous formations, a sixth of old mortar rubbish, and a similar proportion of road scrapings, form a suitable compost for Figs, and 2 feet depth is ample. Place the soil together firmly in the border so as to insure a sturdy, short-jointed growth, and spread the roots evenly in the top foot of soil, working the soil amongst them, and placing them in layers as they rise, not covering the topmost more than 2 or 3 inches. The compost should be moderately moist when used, and a watering given to settle it about the roots. Keep the house cool and dry. A border of about one-third the width of the trellis, say 4 to 6 feet, is very much better than a wide border, for what is wanted is a sweet calcareous soil firmly put together, yet so friable as to admit of the free percolation of water through consistently with retaining the elements essential to the production of fine Figs.

Peaches and Nectarines.—Trees Ripening the Fruit in July.—There are few trees that respond better to lifting and root-pruning than the Peach and Nectarine, and wherever there are cases of bad setting and stoning of the fruit we strongly advise the lifting of the trees when the leaves give indications of falling. If the trees are young, have a tendency to late growth, and do not ripen the wood well, a trench may be made about one-third the height of the branches from the stem, and all roots detached down to the drainage, leaving the trench open for ten days or a fortnight, when it may be filled again and made firm. This concentrates the energies on the ripening and plumping of the wood and buds. Older trees that make strong wood should have the roots wholly or partially lifted and pruned before the leaves have all fallen. Weakly trees, on the other hand, are greatly benefited by the removal of the old soil from over and amongst the roots. Fresh, rather strong loam, with a sixth of old mortar rubbish and about a twentieth part of wood ashes if made from rather large wood, or half that quantity if made from twigs, thoroughly incorporated and made firm, answers in place of the soil removed, following with a good watering of weak liquid manure. It will cause the trees to form fresh roots and invigorate them, being also a good aid in preventing the buds falling. The trees are now approaching the resting period and the foliage is falling, therefore the matter just mentioned must be attended to at once. If the lights have been removed, the trees being in a condition to allow of its being done in August, there will not be any need of water at the roots, but there must not be any lack of a proper supply under fixed roofs, and where the wood is very strong it is not wise to remove the roof lights until the wood is thoroughly ripened.

Trees Ripening the Fruit in August and Early September.—The wood that has borne fruit should be cut out, leaving no more than can be well exposed to light and air. Then cleanse the foliage of dirt, red spider, and brown aphides, by water directed with force from a syringe or garden engine, and repeat occasionally. Scale, however, cannot be so dislodged, and the other pests, especially brown aphids, only partially so;

therefore, apply an insecticide for these infestations. There must not be any lack of moisture at the roots, water being applied as required, and a supply of liquid manure to weakly and heavily cropped trees will help them to perfect the buds and recuperate their wasted energies. The ventilation cannot be too free. If the wood is not maturing well keep the house rather warm by day and throw the ventilators open at night, yet a moist atmosphere must be avoided, as that tends to growth instead of ripening.

Late Houses.—The grandest Peach as regards size, colour, solidity, and quality for late use is unquestionably Rivers' Gladstone, and it is equally as good when grown to ripen early in September as it is at the end of this month or early in October. All the late Peaches require generous treatment and liberal supplies of water through the growing season, with no lack of nutrition when the fruit is taking its last swelling, then there is no want of juice and flavour. If pinched in these respects the fruit may please the eye, but it does not satisfy the palate. When the roots find due supplies of liquid the trees and fruit do not suffer, but a rather drier condition of the atmosphere is beneficial whilst the fruit is ripening. Some soft netting looped up in small pockets to prevent the fruits bruising each other is useful to save any fruit falling through ripeness. An experienced person, by examining the fruit every morning and evening, will generally be able to dispense with the netting, but it is tantalising to lose some of the best fruits, especially when they might have been saved by a net disposed beneath the trees so as to prevent their receiving damage. Thin the shoots where too crowded. Those which have borne fruit should, as soon as the fruit is gathered, be cut out to a successional shoot at the base.

Strawberries in Pots.—The plants must not be neglected for water. Needless supplies seriously injure them by making the soil sodden and sour; yet allowing the foliage to flag is a common cause of the trusses having puny flowers and antherless stamens. When the soil is getting dry and before the foliage flags is the time to supply water. The batches intended for early forcing should be given plenty of room in the sunniest spot at command, and they may shortly be placed in frames, only using the lights in frosty weather and to throw off heavy rains and snow, ventilating freely when the weather is mild. If any plants remain wet for several days without needing water they should have the drainage examined and rectified if defective. Expel worms with lime water. The crowns are numerous in some varieties, a number of small crowns clustering round the central one. The small crowns should be removed sideways with a wedge-like piece of hard wood without injuring the central crown or the leaves. By so doing the vigour of the plant will be concentrated on the main crown, and though the trusses of bloom will be fewer, the fruit will be finer. Keep the surface of the soil rather loose, so as to insure the water passing equally through the ball and moistening it thoroughly. A little dried cow manure rubbed fine applied to the surface of the pots aids root formation, and a little bonemeal, say a pinch between the finger and thumb to each pot occasionally, assists the plumping of the crowns. Remove all runners and weeds, and give the plants plenty of space for the full exposure of the foliage to light and air, so as to secure sturdy growth and well developed crowns, with as much food stored in them as possible.

THE FLOWER GARDEN.

Bulbous Plants.—Any bulbs in a dry state are considerably weakened by being kept out of the ground much later than this, though as far as bedding Hyacinths, Tulips, Narcissi, and Crocuses are concerned they cannot well be planted before the beds are cleared of their summer occupants. In addition to taking an early opportunity of planting miscellaneous bulbs, newly bought in or otherwise, advantage should also be taken of a dry time in September or the early part of October for lifting, dividing, and replanting many of the bulbous plants already established on the place. Not that these require annual or even biennial attention, but most of them pay well for lifting and replanting every third or fourth autumn.

Anemones.—The *apennina*, *nemorosa*, *vernalis*, and *coronaria* types are all perfectly hardy. They are very beautiful in the early spring and summer months, and are simply indispensable where bright coloured flowers are largely required for cutting. They succeed admirably in a variety of positions, including fruit borders. They ought to have the benefit of a freely worked loamy soil to which road grit or sand and well decayed cow or horse manure have been freely added. Dispose the roots $2\frac{1}{2}$ inches deep and about 5 inches apart each way.

Crocuses.—Patches of these in variety are very effective near the fronts of shrubberies and mixed borders, where, if they are planted early and about 4 inches deep, they will increase rapidly, paying well for lifting, dividing, and replanting every third or fourth autumn.

Crown Imperials and Fritillarias.—These ought not to be disturbed often, but if there are signs of failure or it is desirable to increase the stock of any of the varieties, directly their growth is completed lifting, dividing, and replanting may take place. They ought not to be very roughly used, but a small ball of soil and roots should, when possible, be saved with each bulb, the replanting not being long delayed. Mixed borders and the fronts of newly formed shrubberies are the best positions for this class of plants, there being then no necessity for often disturbing them. Any bought in should be obtained and planted not later than October. All require a rather rich loamy soil, those that have been purchased or roughly used being well surrounded with sand. Plant just below the surface in groups of three or six bulbs.

Cyclamens.—Both *C. Coum* and *C. europæum* are comparatively

hardy in the more southern parts of the country, and are admirably adapted for rockwork. The present is a good time for planting them; they ought to have a rather dry sheltered position and a light sandy soil to root in. Plant in groups of about three plants.

Dog's Tooth Violets.—These are more hardy than the foregoing, and are worthy of cultivation for their beautiful leaves alone. They thrive best in a peaty sandy soil, where, if not interfered with, they spread rapidly. The fronts of shrubberies and the margins of beds are the best places for them. If the soil is of a somewhat heavy nature add common peat and sand freely, or failing the former use abundance of good leaf soil.

Hyacinths.—Those permanently planted should not often be disturbed, but when they are moved September and October, or before fresh root action commences, will be the best time to do it. Late in October or early in November is quite soon enough to plant new bulbs in beds or borders. The Grape, Feather, and Musk Hyacinths are of a very different character, and all are very effective in their way. Every four or five years is quite often enough to disturb them, and they ought therefore to be planted rather deeply in front of the borders. They are not particular as to the kind of soil they are planted in.

Iris.—About every third season the bulbous-rooted varieties ought to be lifted, divided, and replanted, taking care not to wholly clear the roots of soil. This may well be done now, and new bulbs planted as soon as they can be had. They all ought to have the benefit of a freely worked well-enriched soil, and if planted somewhat thinly, or about 8 inches apart, and fully 4 inches deep in beds, the surface of the latter during the winter and spring may be furnished with Alpine Auriculas, Pansies, and such like; and during the summer with Verbenas, Mignonette, and other tender plants that do not unduly rob the ground of moisture and fertility.

Narcissi and Daffodils.—These rank among the most serviceable and the most popular spring flowering bulbs that can be grown. To be constantly successful with them they must not be disturbed oftener than every third or fourth year. Single bulbs of choice varieties, given good room and not disturbed, soon surround themselves with offsets, all of which flower grandly when comparatively small, always providing they are not prematurely detached from the parent bulb. It will thus be seen that flower beds are not the proper places for any but the cheap Narcissi of the *Polyanthus* type; but they will do well near the fronts of mixed borders, shrubberies, and even the open spaces between fruit trees. Commoner Daffodils should also be extensively planted along side paths and drives in woods, and the poeticus type of Narcissi thrive admirably on the banks of ponds and lakes. It may not be advisable to dot them promiscuously over lawns and turf generally, but they thrive well and are very effective when grouped in the turf not far from shrubberies and under high spreading trees. In most cases the tops die down before the grass need be mown, and every season the effect will be greatly improved. From 6 inches to 8 inches apart each way is none too much space to allow all the larger varieties in the various sections, the smaller forms being located about 5 inches apart. Plant to a depth of about 5 or 6 inches. They will thrive in almost any kind of soil, but are most at home in a fairly rich free-working loam, sand or road grit being freely added.

Snowdrops.—These must be planted early, and not often disturbed, or otherwise the stock of bulbs will soon dwindle away. Groups of bulbs 2 inches below the turf on lawns, banks, in shady places, and the margins of lakes, shrubberies, and borders where they are seldom or never disturbed, rarely fail to increase rapidly and flower abundantly.

Tulips.—Any that have long been undisturbed in one place may shortly be lifted and replanted, and new bulbs of border varieties ought to be put out not later than the middle of October. Give them some fresh loamy soil and a little sand to each bulb.

THE BEE-KEEPER.

APIARIAN NOTES.

FEEDING SWARMS.

DURING unfavourable weather swarms should be supplied with a few pounds of sugar reduced to syrup. Use about equal weights of sugar and water; it is better rather thin than approaching a thick state, when it adheres to the bees and injures them. This is a time-honoured practice, and if not carried to excess is a sure means of securing a good return of honey for the little outlay on sugar.

SWARMS.

Swarms always work better than unswarmed stocks, and if they have favourable weather gather more in proportion. The best time for swarms is just when honey is moderately plentiful and about two or three weeks before the great flow, and should be supered at its commencement. As swarms are also liable to swarm in from five to six weeks after their own exodus they require to be watched. If it does not pay in one way to have them watched it is a greater loss to leave them alone.

NON-SWARMERS

In some localities where the honey season is very short non-swarmer are the only ones likely to give good results, but where the honey season is a long one swarms pay best. Besides, the two months in the future are better for swarms to breed and become populous than the six past ones. Old swarmed stocks and second swarms along with the prime one will be in better condition for the Heather than any unswarmed stock, which with its old queen will be a source of annoyance the whole season by its inclination to swarm, which is as often as otherwise its ruin.

NUCLEI.

Owing to the many ways in which they can be profitably turned to account, these must not be neglected. Form them on or about the eighth day after the issue of the prime swarm, by dividing the stock into from six to a dozen, according to its strength. Nuclei are the bee-keepers' bank, which he draws upon for the purpose of superseding an effete one, or by gradually adding the condemned ones' brood combs to it, or by working two queens in one hive. Swarming is prevented, supers are more quickly filled, and the trouble we would have with uncertain queens is avoided; the profit is greater, interest and capital going all to the bee-keeper.

APPLIANCES AT SWARMING.

It may be interesting to mention several indispensables at swarming time, and which are especially useful where hedges and trees abound. To dislodge bees from any inconvenient place where they have hived, or to hasten them entering the hiving apparatus, a long pole or a series of them arranged so as to be easily fastened together, or extension having a brush or some feathers at the extreme end saturated with carbolic acid held beneath the cluster, will cause the bees to ascend the hiver quickly. It will also prevent bees entering chinks, where they would be lost, or difficult to get out.

Another thing I have used for many years is my fruit shaker, which is also a long pole. The hook should be broadish and rounded a little on the inside, so that the bark of the tree or its branch is not injured in any way by its application, whether it be the shaking of bees or of fruit. Steps or light ladders should be at hand in every apiary where there are trees or fences to get over without injuring them.

PRESERVING QUEENS.

Although I have in a previous article recommended tumblers for this purpose, sections filled with comb and partly with honey are, perhaps, preferable. The top and both ends should be covered with one-eighth wood a little broader than the section to form a check for the glass on both sides, and to prevent the possible escape of bees or queen. A piece of queen-excluder zinc the size of the bottom completes the affair.

AFTER SWARMING.

Hives manipulated or divided sooner than the eighth to the tenth day after the first swarm issues suffer greatly through loss of eggs and unsealed larvæ by the bees eating these. This should be kept in mind. After the eight days are up all the royal cells, as well as those of the workers, will be sealed. The former should then be excised and inserted somewhere in the prepared sections—one in each. Place these on the top of the hive, where the bees, induced by the honey, will ascend, and care for the cells and queens after they are hatched. No queen must be allowed to be at large in the hive, or swarming will assuredly take place. The bee-keeper must exercise his judgment how to dispose of these queens, whether they be employed to form into nuclei or preserved to be introduced to stocks after the issuing of the first swarm. But I warn the reader that while this may be successfully accomplished, and the newly introduced queen fertilised and begun to lay, she may be summarily ejected, and probably a drone-laying queen or bee supersede her. It is never safe to introduce a queen to a hive having eggs or larvæ unsealed, especially where queens have been previously under formation. This is the reason so many queens have been lost and hives ruined.

WINTER EKE

or raiser is a very old custom of wintering bees in Scotland—not very long adopted in England, and but lately in America. The eke, as used in Scotland, was shallow, and the entrance kept narrow; but the modern bee-keepers give a wide entrance, to prevent dead bees completely blocking up the entrance, and to cause a draught to keep the combs dry. This is quite plausible theoretically, but very faulty practically, which I discovered with my first trial many years ago. During our humid weather in winter hives with much doorway admit a great deal of moisture,

which moulds the combs and pollen, turns the honey to vinegar, causes the bees through the unnecessarily low temperature and spoiled food to become unhealthy, and if the cold is protracted to die. The contrast to the above-mentioned hives, which I have seen, is so great that the owners of them have resolved they will not be misled by "modern ideas" again.—A LANARKSHIRE BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley.—*Trees, Shrubs, Fruit Trees, Roses, &c.*

Mr. G. Chaundy, William Street, New Marston, near Oxford.—*Carnations and Picotees.*

Mr. H. Geggie, Bury, Lancashire.—*Carnations, Picotees, Pyrethrums and Primulas.*



* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Vegetables at Frogmore (E. B.).—You are not to be blamed for failing to understand the sentence on page 230 last week:—"11 acres are devoted to Potatoes, Asparagus, Seakale; and even Horseradish are grown by the acre." The printers did not exercise their usual care in following editorial instructions. The sentence should read:—"11 acres are devoted to Potatoes. Asparagus, Seakale, and even Horseradish are grown by the acre."

Seedling Carnation (J. L.).—It is an attractive yellow ground. There are now many of this class, some of which it resembles. You might send a few blooms to Mr. Turner at Slough, and ask him if it is distinct from those in his large collection. If of no special value as a florist's flower it is well worth keeping as a garden variety.

Tomatoes not Setting their Fruit (H. P.).—The flowers are very defective, and their condition is probably occasioned by the excessive vigour of the plants, which is unfavourable to fruit production. The only things we can suggest are to keep the house drier, curtail the leafage, so as to concentrate the vigour more on the trusses, ventilate freely, and fertilise the flowers when they are fully expanded and the pollen is ripe.

Ventilating Vinery (B. S.).—It would not be safe to shut the house up close at night whilst a number of Grapes are hanging on the Vines and the structure filled with plants. The moisture arising from the latter would cause the Grapes to decay. Keep just a little warmth in the pipes, and leave the ventilators open an inch or two all night, and so maintain a dry, buoyant atmosphere; a high temperature, however, must be avoided. Water the plants in the morning, so that all moisture can be dried up before night.

Planting a Slope (Gardener).—The material forming the slope being stiff clay it will not answer to make large holes in it for planting the shrubs, as they will only become receptacles for holding water; or if the soil is so porous as to allow the water to escape there will only be the good soil in the holes for the shrubs to grow in, and they will languish in a year or two after planting. We have tried the plan and found it fail. The best plan would be to mix some ashes with the clay to the depth of a foot, which will improve its texture, and then cover the whole of the slope with a foot or 18 inches depth of good soil. Common Laurels pegged down might be the most suitable. Rhododendrons would not suit the position, and it is doubtful if the soil would be adapted for them.

Corypha australis Wintering Outdoors (J. D.).—We have known large plants of this species to winter safely in a dry shed with the tubs in which they were grown surrounded and covered with dry straw and the heads wrapped in mats during severe weather, but the leaves were more or less disfigured, quite as much if not more by the putting on and removal of the mats as by the cold. It did not succeed outdoors, even when planted out, and the roots covered as well as protected over the head in frosty weather, but the situation was rather damp, and success is more likely to be assured in a dry and sheltered situation with efficient covering in severe weather. We can, however

hold out little hope of its proving hardy enough to withstand an ordinary winter, and certainly not a severe one, with a single or even double thickness of mats wrapped around it.

Use of Tomato House in Winter (S. S.).—As you wish to start the Tomato plants so as to produce ripe fruit by the end of April or early in May, it will be necessary to raise plants from seed not later than the New Year; but plants from cuttings struck about this time, and wintered in small pots well up to the glass, are better for early supplies than plants from seeds. Roses in pots are hardly likely to pay for firing to have the plants in flower at Christmas, unless they are now advanced in bud, and would only require a genial warmth to bring them into flower. Chrysanthemums for specimen blooms would be the most likely plants, as we fear the pipes are so arranged that Mushroom beds could not well be made; but what we take for hot-water pipes on your not very clear plan may be ventilators, as you mention them at the bottom of the ends. If there is room we advise your growing Mushrooms, making up the beds at once, and they will produce well at midwinter. We presume you have another structure in which the Tomato plants can be forwarded.

Black Hamburgh Grapes not Colouring (F. J.).—The chief cause of Grapes not colouring well is overcropping. That we think is your case, as the Vines are perfectly healthy and have not been infested with insects or mildew. The removal of a large quantity of foliage at one time, or allowing more to be made than can have full exposure to light, and then having to thin it so as to admit a fair amount of light and air, is sufficient to account for the defects in colouring. Ample supplies of nourishment at the roots are of little use unless the Vines have plenty of foliage, so disposed as to elaborate it. Though Black Grapes colour better under a good spread of foliage the Vines must not be allowed to become crowded with spray, so as to hinder the principal leaves from performing their functions, but should be kept well in hand by judicious pinching. This has perhaps been neglected in your case, and we fear little can now be done as the season is so far advanced, but we should keep the temperature 5° less at night, so as to give the Vines some rest, admitting air early in the day with a little at night as at present.

Thermometer Scale (Learner).—Fahrenheit's is used chiefly in Britain, Holland, and North America, the freezing point of water on which is at 32°; and the boiling point, 212°. Reaumur's thermometer was that chiefly used in France before the Revolution, and is that now generally used in Spain, and in some other continental States. In its scale the freezing point is 0°; and the boiling point 80°. On Celsius or the Centigrade thermometer, now used throughout France and in the northern kingdoms of Europe, the freezing point is 0°; and the boiling point 100°. Hence, to reduce degrees of temperature of the Centigrade thermometer and of that of Reaumur to degrees of Fahrenheit's scale, and conversely:—Rule 1, Multiply the Centigrade degrees by 9, and divide the product by 5; or multiply the degrees of Reaumur by 9, and divide by 4; then add 32 to the quotient in either case, and the sum is the degrees of temperature of Fahrenheit's scale. Rule 2, From the number of degrees on Fahrenheit's scale subtract 32; multiply the remainder by 5 for Centigrade degrees, or by 4 for those of Reaumur's scale, and the product, in either case, being divided by 9, will give the temperature required according to Fahrenheit's.

Orchids from Trinidad (S. K.).—The names of the Orchids which you have received from Trinidad are by no means clear. When they bloom, a few flowers and a leaf should be sent to the office, so that the right names may be given. Judging from the information in your letter we should say that the plants are (1) *Oncidium citrinum*, which has citron-coloured flowers, borne on racemes a foot long; it flowers in the spring, and was introduced from Central America in 1848. (2) *Oncidium Baueri*, which has long pseudo-bulbs and leaves, and bears long panicle spikes of yellow flowers. This and the foregoing should be potted in peat and sphagnum, and always kept moist. They require an intermediate temperature. (3) *Oncidium Lanceanum*, which, when in good condition, is a valuable plant. It has long leaves and erect spikes of large beautifully scented flowers, dull yellow marked with chocolate; the lip is a pale violet colour. This plant requires a stove temperature, and when growth has finished may be kept rather dry until started again. It should be grown in baskets suspended near the glass. (4) *Rodriguezia secunda*, which is a native of Trinidad, and should be grown in baskets, in peat and sphagnum, in a stove temperature; it must be kept moist, and in the autumn should produce spikes about 8 inches long, carrying many small deep rose-coloured flowers.

Names of Fruits.—Notice.—Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. (P. & Sons).—We cannot attempt to name the Apple with confidence, all the specimens being more or less distorted. (R. C. L.).—3, Apparently a nameless local Apple. 4, Duchess of Oldenburg. 5, Golden Spire. We do not undertake to name Plums unless portions of summer shoots are sent with them, as has been stated before. (G. W.).

—The Apple is Cellini; the purple Plum Cooper's Large, and the other Washington. (C. F. H.).—1, Emperor Alexander; 2, Bedfordshire Foundling; 3, Early Julian. Some specimens received as we are preparing for press will be named next week.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (A. J. L.).—*Eurya latifolia variegata*; it would probably succeed under the conditions indicated in your locality.—A correspondent sends a small box containing one specimen with a yellow flower, packed in moss. There is no letter, and the post mark is illegible. The specimen is *Cassia corymbosa*, figured on page 233 of last week's issue.

COVENT GARDEN MARKET.—SEPTEMBER 21ST.

MARKET very flat indeed, with prices much depressed.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, half sieve	1	0	to	3	Oranges, per 100	4	0	to	9
Grapes, per lb.	0	6	1	6	Peaches, per dozen	2	0	6	0
Filberts, Kent, per 100 lbs.	75	0	80	0	Plums, per half sieve ..	2	0	4	0
Lemons, ease	15	0	35	0	St. Michael Pines, each	3	0	6	0

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beans, Kidney, per lb. ..	0	2	to	0	Mustard and Cress, punnet	0	2	to	0
Beet, Red, dozen	1	0	0	0	Onions, bunch	0	3	0	5
Carrots, bunch	0	4	0	0	Parsley, dozen bunches ..	2	0	3	0
Cauliflowers, dozen	2	0	3	0	Parsnips, dozen	1	0	0	0
Celery, bundle	1	0	1	3	Potatoes, per cwt.	2	0	5	0
Coleworts, dozen bunches	2	0	4	0	Salsafy, bundle	1	0	1	6
Cucumbers, dozen	1	6	3	6	Scorzonera, bundle	1	6	0	0
Endive, dozen	1	3	1	6	Seakale, per basket	0	0	0	0
Herbs, bunch	0	3	0	0	Shallots, per lb.	0	3	0	0
Leeks, bunch	0	2	0	0	Spinach, bushel	3	0	3	6
Lettuce, dozen	0	9	1	0	Tomatoes, per lb.	0	2	0	4
Mushrooms, punnet	0	9	1	0	Turnips, bunch	0	3	0	4

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	2	0	to	4	Mignonette, 12 bunches ..	1	0	to	3
Asters, English, doz. bunches	2	0	6	0	Myosotis or Forget-me-not,				
Bouvardias, bunch	0	6	1	0	dozen bunches	2	0	3	0
Carnations, 12 blooms ..	0	6	2	0	Orchids, per dozen blooms	3	0	12	0
Carnations, dozen bunches	4	0	6	0	Pansies, dozen bunches ..	1	0	2	0
Cornflower, dozen bunches	1	6	3	0	Pelargoniums, 12 bunches	4	0	6	0
Chrysanthemums, dozen					„ scarlet, 12 bunches	3	0	4	0
blooms	1	6	2	6	Poppies (var.), doz. bunch	1	0	4	0
Chrysanthemums, dozen					Primula (double) 12 sprays	0	6	0	9
bunches	6	0	12	0	Pyrethrum doz. bunches ..	3	0	6	0
Eucharis, dozen	2	0	4	0	Roses (indoor), dozen ..	0	9	2	0
Fuchsias, per bunch	0	6	1	0	„ (outdoor), doz. bunch.	2	0	6	0
Gardenias, per dozen ..	2	0	4	0	„ Red, per doz. blooms ..	1	0	2	0
Gladioli (various), 12 sprays	1	0	2	0	„ Tea, white, dozen ..	0	6	2	0
Lavender, doz. bunches ..	4	0	6	0	„ Yellow, dozen	2	0	4	0
Lilium longiflorum 12					Stocks, dozen bunches ..	3	0	5	0
blooms	3	0	5	0	Sunflower, doz. bunches ..	2	0	6	0
Lilium (var.) doz. blooms	0	6	2	0	Sweet Sultan, doz. bunches	2	0	3	0
Maidenhair Fern, doz. bchs.	0	0	6	0	Sweet Peas, dozen bunches	1	0	3	0
Marguerites, 12 bunches ..	2	0	4	0	Tuberoses, 12 blooms ..	0	3	0	6

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (golden) dozen	6	0	to	12	Heliotrope, per dozen ..	6	0	to	9
Begonia, per dozen	6	0	12	0	Hydrangea, per dozen ..	9	0	15	0
Chrysanthemums, per doz.	6	0	9	0	Lilium lancifolium „ ..	12	0	15	0
„ large plants, each	1	0	3	0	Lobelia, per dozen	3	0	6	0
Cupressus, large plants, each	2	0	5	0	Lycopodiums, per dozen	3	0	4	0
Dracæna terminalis, dozen	18	0	42	0	Marguerite Daisy, dozen	6	0	12	0
„ viridis, dozen	9	0	24	0	Mignonette, per dozen ..	4	0	6	0
Euonymus, var., dozen ..	6	0	13	0	Myrtles, dozen	6	0	9	0
Evergreens, in var., dozen	6	0	24	0	Palms, in var., each	1	0	15	0
Ferns, in variety, dozen ..	4	0	18	0	„ (specimens)	21	0	63	0
„ (small) per hundred	6	0	8	0	Pelargoniums, scarlet, doz.	2	0	4	0
Ficus elastica, each	1	6	5	0	„ per dozen	6	0	12	0
Foliage plants, var., each	2	0	10	0	Solanums, per dozen	15	0	18	0
Fuchsia, per dozen	3	0	6	0	Tropeolum or Nasturtiums				
Geraniums, Ivy	4	0	6	0	per dozen	3	0	4	0



AGRICULTURAL REFORM.

HERE is the title of our article, for whatever it may be worth; but as it was written the thought occurred, "Would not estate reform be more to the purpose?" The gravity of the situation deepens in intensity for those farmers who cling to Wheat and stock, no profit, but actual loss, being the record of most of them. "Whatever shall us do now, then?" was the

exclamation of a worthy old farmer last spring when the prices offered for his store cattle were less than he had given for them a year before. What to do, and how to do it, is the enigma in farming which many a man fails to solve at all, and yet the way to achieve successful reform seems plain enough.

Landlords generally have reduced rents very much. Unfortunately this has not been a voluntary concession, but it has been done under a threat to leave, actual notice, or bankruptcy of tenants. There has been very little of graceful concession on the one hand, and grateful acceptance on the other. A lamentable feeling of antagonism has grown up, not altogether from hard times, but from hard measures and injudicious treatment, even in the good times. Then rents went up because tenants were so prosperous, and a host of applicants were after every vacant farm. They subsequently fell with the price of Wheat, till many a farm has been let for half, or even two-thirds, the rent that it made twelve or fourteen years ago. If with such reductions there had been an equally radical and sensible change in the farmer's management of his affairs, farms everywhere ought still to answer.

One of the pioneers in the immigration of northern farmers to Essex has said distinctly that there is great room for improvement with a large proportion of farmers. Thrift, combined with energetic action, the presence of the master's hand and eye being felt everywhere and in everything on the farm, is necessary. He tells of a large farm in hand on which two tenants had become bankrupt. A Scotchman hired it at a reduction of 25 per cent. on the former rent. His failure was confidently predicted by his new neighbours. On the contrary, he made 8 per cent. interest on his money the first year, and from 12 to 15 per cent. per annum upwards; but then he reduced the arable area from 350 acres to 90 by laying down the remainder to temporary pasture. Instead of the fourteen men formerly in constant employment upon the farm, six men, with two lads and two women, were sufficient except for the haymaking and harvest. The Wheat acreage was reduced from 100 acres to 10 or 15 acres, and the number of horses from twenty-one to six. A dairy of seventy cows was started, bare fallowing was done away with, the land was kept clean by roots, or by growing heavy crops to smother the weeds. The reform proved entirely successful, owing, as the report sets forth, to "a more energetic handling of workmen and better planning of work, while the judicious change in the style of farming rendered fewer men and horses necessary."

Said another able farmer "I farm to live, and live I will. I get a profit, and intend doing so. What grieves me is that I cannot do it in the old style." The books at this farm show an annual curtailment in expenditure upon rent, rates, labour, feeding stuffs, and manures of £1357 12s. 9d. as compared with what was spent—and spent profitably too—twenty years ago. This was a midland farmer who wisely resolved to face the situation and stick to his farm; he was able to do so by a reduction of nearly £350 in rent and rates, and his own energetic action in changing his method of farming.

When the depression had got agriculture thoroughly in its grip Essex was the county which suffered most. Hundreds of corn farms became vacant there, and land fell so much in value that it could be bought outright for £10 or £12 an acre. But now it is turned to by northern farmers as a veritable Land of Goshen, where profitable farming is yet possible. How this is so we have shown. Last year, we are told, nearly a hundred more Scotch farmers went with their Ayrshire milkers, and their great broad-chested, raw-boned laddies to seek their fortunes in Essex. Some East Lancashire farmers have been established there in farms for some time, and we now hear of others who contemplate leaving high rented farms in North and West Lancashire for Essex farms, which can be had at 14s. or 15s. per acre tithe free. Of the Lancashire farmers who settled in

Essex three years ago it is said that though none of them have made their fortunes, they have proved migration to be an experiment worth trying. It may be so, but much depends upon the farmers as well as upon land and rents. In a "manifesto" just issued on behalf of the Lancashire Tenant Farmers' Association from the central offices at Preston, they say "We are, and have been for some time, suffering from difficulties which can be removed by reasonable concessions on the part of the landowners and their agents, and by ameliorative legislation." Landlords and the legislature may very naturally in turn ask, And what have you done, what are you doing yourselves to meet the difficulty? Is the dairy farming in Lancashire still managed in the old way? Is there any real improvement in the management of dairies, pasture, or cows? Is the average milk yield what it should be, or is there any real effort at improvement in the selection or breeding of cows?

WORK ON THE HOME FARM.

A recent journey northwards enabled us to see that most of the corn was carted south of Northampton, and much of it is now in stack even in the north midlands. Many of the stubbles seemed exceptionally clean. Ploughs were at work on some, but nothing like brisk systematic autumn tillage was visible anywhere on the land. Yet the weather has been most favourable for such work, and we greatly regret that it is not more generally turned to account. Most of the Wheat has been carted in excellent condition. Some of the Barley has lost colour from heavy rain, but good samples are certain to be plentiful, with some decline in price when the season is in full swing once more. Bean stubbles have been very foul with weeds, the crop of Beans is inferior in yield, and the plant was so thin that it is practically a failure. Weeds became rampant after the growth of the Beans was so high that hoeing was out of the question. There is no doubt that thick seeding to smother weeds is sound practice. Thin seeding and repeated hoeings were all very well when Wheat sold at 50s. per quarter, but it will not answer now with Wheat at 30s. or considerably less.

We have much land now in course of preparation for fruit farming, so as to be ready for the planting early in September. Some small plots are being drained and trenched; others extending over several acres are being broken up by the steam cultivator, which does the work thoroughly, and at a much cheaper rate than the trenching. No manure has been used, but before the planting a surface dressing of muriate of potash, bone flour, and superphosphate will be applied to the entire surface and be worked in with planting tools where plantations are being made; for orchard trees the manure will be worked into the stations. This is much cheaper, and far more efficient than farmyard or stable manure, which is so expensive to cart, and is often of doubtful benefit. The use of manure at all in planting depends altogether upon the condition of the land. Sound fertile soil needs no manure at the planting, an excess of stimulants inducing rampant growth, which ripens badly, and is not satisfactory.

It is obvious that judgment and caution are required in this work if the best results are to be had. Among these quick returns are certainly a prominent factor; they can only be had by careful preparation, timely and judicious planting, and subsequent skilful management.

METEOROLOGICAL OBSERVATIONS.

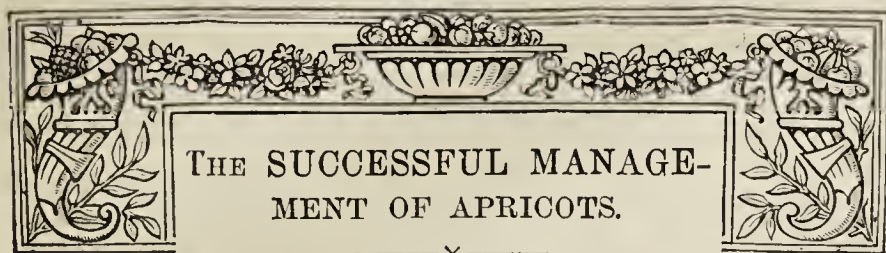
CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1892. September.		Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	1u Sun.	On Grass.	
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday	.. 11	30.113	59.8	55.3	S.	56.6	66.4	50.6	93.7	43.9	—
Monday	.. 12	30.137	63.2	59.1	W.	57.0	70.4	56.9	102.9	50.4	—
Tuesday	.. 13	29.799	64.2	58.8	S.W.	57.9	71.4	58.9	115.6	51.7	—
Wednesday	14	30.176	55.1	51.2	S.W.	57.9	67.0	44.3	110.0	36.3	—
Thursday	.. 15	30.101	58.7	54.8	S.W.	57.2	68.4	47.2	112.7	37.4	—
Friday	.. 16	29.771	65.3	60.2	S.W.	56.9	71.3	51.6	113.6	43.1	0.024
Saturday	.. 17	30.205	52.7	46.6	W.	56.8	62.2	46.7	104.6	39.3	—
		30.043	59.9	55.1		57.2	68.2	50.9	107.6	43.2	0.024

REMARKS.

- 11th.—Generally overcast, but occasional gleams of sun.
 12th.—Overcast morning; sunny afternoon, with solar halo.
 13th.—Generally overcast, with occasional gleams of sun in morning; hot sun in afternoon.
 14th.—Clear sunny morning; occasional cloud in afternoon, bright night.
 15th.—Overcast early; almost continuous bright sunshine after 9 A.M.
 16th.—Frequent sunshine in morning; rain about 1.30 P.M., bright sunshine after 2.30 P.M.
 17th.—Cloudless almost throughout.
 An almost rainless week, with much bright sunshine. Temperature above the average.—G. J. SYMONS.



IT is not often that we see a house of Apricots. The reason is not that the ripe fruit is not esteemed for dessert, as when thoroughly ripe, the skin slightly cracked and shrivelled, the Apricot is not only one of the most beautiful but one of the richest fruits in the world. Imported fruit is as indifferent in quality as it is uninviting in appearance; fruit from walls is too late to compete with foreign produce, and it is often not half-ripe or even half-coloured on one side when gathered. Fruit in a half-ripe condition does not impress the palate very favourably, and it is one characteristic of the Apricot that it will not ripen after being gathered in the early stages of ripening under any circumstances so as to have a fourth of the richness and flavour of fruit perfectly matured on the tree, indeed Apricot culture outdoors is, in nine cases out of ten, a pronounced failure. This is not because the Apricot is more tender than it was, nor through the assumed decrease in temperature of the seasons, for that is not borne out by the meteorological observations, but it is partly a consequence of the indifferent management of the trees now compared with that formerly bestowed on them and other fruit trees grown against walls, especially as regards protection to the blossom, incipient fruit, and tender growths. It is also partly due to the suicidal persistence in growing varieties unsuited to the climate. The variety Moorpark, one of the best, if not the best Apricot, is a complete wreck under precisely the same conditions as those in which Blenheim or Shipley's is perfectly healthy. Some of the varieties of Moorpark, such as Early Moorpark, Hemskerk, and Powell's Late, are hardier than the type, yet none of them equals it in the quality of the fruit. Kaisha is a model of growth, health, and fruitfulness in Apricots. It grows about half as much as Moorpark. That variety is far less vigorous than Royal and Blenheim, yet these are much hardier, and so is St. Ambroise, which is a good grower and fruitful, than the Moorpark race. The Peach or Grosse Pêche Apricot closely resembles the Moorpark in its fruit, but is distinct in its foliage and habit from that variety. If anything, its fruit is larger, more rich and juicy, and it is quite as tender as the Moorpark. Oullins Early Peach is hardier and earlier than the type, and a very desirable Apricot. Large Early Montgamet is not liable to gum, and its fruit is large, firm in the flesh, yet juicy and good, and ripens early. New Large Early (Rivers) has earliness and rich flavour to recommend it, and is no doubt the best of the Apricots for growing under glass for early fruit. Then we have Frogmore Early, small in fruit, and of good flavour, the tree very prolific, and ripening its fruit first of the Apricots. There is still the Breda Apricot, hardiest of all, but its fruit is small, and only of use for preserving; the tree is healthy and a good bearer.

Such are the varieties of Apricots in a general review of their characteristics and merits. Those that do not succeed outdoors are the best indoors; they leave their weaknesses behind them, and after becoming thoroughly established under glass, which it does not take long to effect, for the Apricot is a free grower and commences to bear in a very young state, produce fruit abundantly of the highest excellence, far superior to that produced by trees trained to walls. Moreover, there is a great difference between choice fruit produced under glass and that imported—a difference in favour of the former. All the varieties are not worthy of cultivation under glass. New Large Early, Early Moorpark,

Oullins Early Peach, Moorpark, Peach, and Powell's Late comprise half a dozen of the best for a cool house, or for one with sufficient artificial heat to exclude frost. New Large Early, Early Moorpark or Oullins Early, Moorpark or Peach, furnish the best three or five for forcing. Kaisha is an amateur's Apricot, good everywhere alike, and only requiring about half as much space as the others named. Success is certain, either with trees planted out in properly prepared borders or with those grown in pots, if the essential cultural conditions are complied with, and it is as well to bear in mind that the most abundant crops are grown in Northern Africa on the borders of deserts too sandy in soil and too dry in atmosphere for the production of many fruits. It is of no use attempting to grow Apricots with the stewing treatment given to Vines or even Peaches, for the trees delight in a sunny day and a cold night, and show their dislike of a close, warm, moist atmosphere by casting the blossoms instead of setting the fruit, and those that pass this stage may be cast instead of stoning when the size of pickling Walnuts. The Apricot loves fresh air as much as a Bedouin of the desert, and must have it in every stage of growth. For that reason we find it succeeding in orchard houses with boarded sides that let air in through the openings between the boards when the house is closed, whilst there is a signal failure in one with solid sides and close-fitting lights and panes of glass. It is, therefore, a question of air with just sufficient warmth to prevent damage from cold that marks the line of demarcation between failure and success in Apricot culture under glass.

The house for forcing (and all culture under glass is forcing) should be light and ventilated both at the top and bottom, and efficiently heated, plenty of piping being provided so that the heat is not radiated at a high temperature. By efficient ventilation I mean lights to open the whole length of the house, not one here and there in the roof, and similar provision at the front or at the sides, but full provision for perfect ventilation. There is no objection to boarded sides if ventilators are provided to open the whole length of the house, and on both sides of a span. The trees may be trained to a trellis fixed 12 inches from the glass. A lean-to, facing south, may be 10 to 12 feet wide, and is the best for early forcing. The trees should be planted in front and trained so as to occupy the whole of the roof, for trees against the back wall produce little beyond leaves. When a house is erected over trees against a wall it is necessary to only allow the front trees to extend so far up the roof that the sun at midday will shine right down to the base of the trees on the back wall. A span-roofed house is not good for forcing unless the ends are placed north-east and south-west, and then it is not equal to a lean-to for early work, but it is better for later crops. A span-roof 18 feet wide will accommodate trees on each side, and standard trees bear just as well as those trained to trellises, while with the heads well up to the glass and plenty of light sideways they furnish about twice as much fruit as those on the stereotyped trellis system. Two rows of 4-inch hot-water pipes answer for the lean-to, and two rows on each side for the span.

The borders should be wholly inside and not made all at once. A 4-feet width of border, or such width as will admit of the roots being spread out straight, with about 1 foot more for their extension, is ample to commence with. It should be drained 9 inches to a foot deep, and have a drain below all to carry off superfluous water. The drainage should be covered with a 3-inch layer of old mortar rubbish or chalk; if neither of these can be had use some burned bricks or soft sandstone, preferably red. From 24 to 27 inches depth of soil is ample. Apricots require a silico-calcareous soil. A calcareous soil interspersed with flints, as occurs in many parts of Hertfordshire, is the soil of soils for Apricots. It also succeeds on the calcareo-silicious soils of Oxfordshire and the ferruginous gravels and sands of many districts, especially on the new red sandstone. Apricots do not seem to thrive in argillo-calcareous soil outdoors, especially when the substratum is clay;

but indoors this is a capital soil for Apricots and fruit trees generally. Good turfy loam, neither light nor heavy, but preferably calcareous and silicious than heavy, four parts, lime rubbish from an old building one part, and road scrapings one part, the loam chopped moderately small and fine, the whole well incorporated, form a suitable compost. It should be made compact, and the trees may be planted as soon as the leaves begin falling. Those that have been trained to walls for about three years are the most suitable, as they will be in a fruitful state and calculated to afford a moderate crop of fruit the first season, and having been lifted annually they can be moved with safety. The borders being firm and a few inches allowed for settling, plant at once, giving a good watering. If the roof lights are moveable, as they ought to be, take them off and mulch over the roots with a couple of inches thickness of short stable litter, but not containing more than a third of manure.

Apricots succeed well grown in pots. As a rule, striving to grow them in a house with other fruits is not successful, yet I have seen them produce some fruit in a house with Peaches and Vines. Trees should now be procured or ordered. Standard trees are much the best. By standard is meant a tree with a clear stem and a rounded head, the height of stem being proportioned to the space or height of the house. Bushes answer for low houses, while pyramids are better adapted for houses of medium height, as spans. If in pots when received they must be given a size larger if they require it whilst the leaves are on the trees, disentangling the roots at the sides of the ball with a fork, and cutting back any straggling or thick ones. Drain the pots thoroughly and ram the soil firmly, leaving space proportionate to the size of the pots for holding water and top-dressings. Trees that do not require a shift need only have the drainage rectified and be surface dressed, or the old drainage may be cleared away, a few inches from the base removed, the roots shortened back, and fresh drainage and soil given, using good fibrous loam, old mortar rubbish, and road scrapings, as advised for the borders, with a fifth part of well-decayed manure and a pint per bushel of Thomas' phosphate powder, removing also the loose surface soil and supplying rich material. If the trees are not in pots, bushes or pyramids should be lifted when the leaves commence falling, have their roots trimmed, and be potted firmly, allowing them to become established in the pots before subjecting them to forcing. The trees should be stood on a hard bottom, impervious to worms, and surrounded with ashes to the rim, covering the pots with litter upon the approach of frost. If the growths are not well ripened the heads should be protected in severe weather, or they may be wintered in an orchard house, in which they should be grown in preparation for forcing. The trees should have a good watering after potting or having the roots interfered with.—G. A.

THOUGHTS ON TOMATOES.

I HAVE been much interested in the recent notes on Tomatoes which have appeared in your columns. Year by year some of the newer varieties are grown alongside of true and tested friends, and subsequently retained or discarded. This year nearly half my plants were Challenger, both in houses and outside. I am very well satisfied with this Tomato, and consider it a real acquisition. It is a strong grower and free fruiter, and I found it very good indeed for pot culture. I think that I found it the best of all for pots, although Chemin (a French variety) ran it close, and was indeed in many plants indistinguishable from Challenger, yet the latter has beaten the other varieties in weight of produce. Alluding to the similarity of these two, I may say that I sold plants to a gardener of each, and he afterwards complained that I had only supplied him with one, and he wanted to know whether it was Chemin or Challenger. Growing them side by side I also failed to perceive any difference in some plants; the fruit of Chemin is on some plants flatter, whereas in many cases it is exactly similar to Challenger. I grew Chemin last year from seed supplied by Messrs. Vilmorin, Andrieux & Co., and was well satisfied with it, and those raised this year were from the same packet of seed. The growth of the two varieties is also similar.

Prelude, I see, is described by Mr. G. M'Dougall as of two colours, and I may state that although I have always saved seed from the red I have occasionally found a plant with pink fruit. The same thing has occurred with other varieties. With great regret I have determined to discard Prelude. A better setter and cropper I never knew, but the weight off each plant did not realise as great a profit as in the case of others. If Mr. M'Dougall has secured a cross with a larger variety (preferably a good type of the Old Red), I have no doubt it will turn out a success. I think it was last year that I advocated this cross in your columns.

Ponderosa, I see, was submitted to the Fruit Committee by Mr. R. Owen of Maidenhead, but was passed on account of its "dingy crimson" colour. I grew this variety last year and found several plants carrying red fruit, so I saved the seed of some, and this year, with the exception of two plants, all bore red fruit. I have taken the liberty to send Mr. Owen a medium-sized fruit. I do not know what his experience of it is as a cropper, but I have this year found it far freer in fruiting than last year, and the weight of produce has made it profitable. Earlier in the season I had plenty of fruits weighing 12 and 14 ozs. each. In the United States I see Messrs. Henderson of New York (from whom I obtained the seed) have in their seed list letters from correspondents mentioning such weights as from 2 lbs. to 3 lbs. for a single fruit. I have no doubt very heavy fruits could be grown here, but my aim is for medium-sized fruit, five or six to the pound, which I find far more saleable. A Guernsey market variety which is dwarf in growth and fruitful I find as profitable as most, but too many of the fruits are ill-shaped.

I forgot to mention that Challenger does not succeed outdoors with me in one very important particular. Nearly every fruit cracks round the top and decay soon commences. Had it not been for this I should have found it a suitable variety, for it fruits freely.

Early Ruby, an American variety, I find to be exceedingly useful both outside and in. It is early, carries a heavy crop of medium-sized fruit, and is also a very moderate grower, so that a more desirable variety for outdoor work and unheated houses I do not know. I have a narrow lean-to with a west aspect planted with this Tomato, and the fruit hangs in regular ropes. Outside also it is carrying a heavy crop. This and Laxton's Open Air I find to be the only two varieties that I can always depend upon to carry a crop outside. It is risky to depend upon any others entirely, although I never fail to try a few other varieties. Early Ruby must not be confounded with Holborn Ruby, which I do not know, and it is not ruby coloured but red, for which reason I think a more desirable name might have been found.—H. S. EASTY.



ODONTOGLOSSUM BICTONENSE.

THIS old *Odontoglossum* is not very frequently met with, but is well worthy of a place on account of its period of blooming, its free flowering, and the attractive appearance of the flowers. These vary somewhat in colour; a form now blooming in Messrs. Laing's nursery (where the Orchids are in admirable condition) has the triangular lip almost pure white, and the sepals and petals light brown, or so thickly dotted with brown as to hide any ground colour there may be. But in all its forms it is a graceful and pleasing little plant.

RODRIGUEZIA SECUNDA.

FEW Orchids are more easily grown than this, and as it can be readily imported in good condition it is also a cheap plant. It is very dwarf, growing from 6 to 8 inches high. The spikes are slightly pendulous, and the flowers are produced throughout September, thus making the plant a welcome addition to the Orchid house when flowers are somewhat scarce. It was introduced from Trinidad in 1820. The genus was named in honour of Emanuel Rodriguez, an eminent Spanish botanist and chemist. The pseudobulbs are oval in shape, and short; the leaves lanceolate, leathery, keeled; the spikes are about 8 inches long, and carry fifteen to twenty dark rose-coloured flowers. Although arranged on each side of the rachis, the flowers all rise to the upper side, and open at the same level. The petals are ovate, obtuse, and the lip is slightly reflexed. If grown in baskets, in peat and sphagnum, and suspended near the glass in a stove temperature, given plenty of moisture while growing, and never allowed to get quite dry, it will flourish.

Mealy bug has a liking for the axils of the leaves, and should never be allowed to establish itself. *R. secunda* may be grown in an intermediate temperature, but it does not flower so freely as in a warmer house.—C. K.

CATTLEYA STATTERIANA.

LOVERS of Cattleyas would hold themselves particularly fortunate in the introduction or exhibition of fresh and beautiful forms were all of these at their command on reasonable terms, but this is not always so, and it is markedly the reverse in the case of the magni-

its characters point to a hybrid origin, and, as intimated in the reference to it last week, it is more than likely that it is a natural hybrid resulting from the crossing of *C. gigas* and *C. aurea*. There is nothing in the whole collection of fine Cattleyas now possessed to excel it in size, beauty of form, or rich colouring. In the latter respect it is conspicuously distinct. The apical area of the lip is rich velvety crimson, and purplish streaks radiate from it into the throat. The side lobes are deeply coloured with the rich nankeen yellow of *C. aurea*, approaching to orange. There is a suffusion of carmine on the outer surface of the tube, and along the whole of



FIG. 38.—CATTLEYA STATTERIANA.

ficent hybrid exhibited by Mr. Johnson, gardener to T. Statter, Esq., Stand Hall, Manchester, at the last meeting of the Royal Horticultural Society under the name of *C. Statteriana*. There is little doubt that, so far as Great Britain is concerned, Mr. Statter can claim an absolutely unique possession in this remarkable form, and as his great object is to secure a collection of special interest, it is hardly likely that he will allow so striking a plant to leave it for any financial consideration, though tempting offers would, no doubt, be made were it for sale.

We have referred to *C. Statteriana* as a hybrid. There is no definite and precise knowledge that such is the case, for the plant was an imported piece, and there is no history about it to give, but

the edge of the flower runs a feathering of rosy carmine, recalling a heavy-edge Picotee. The sepals are ivory deepening to lemon, and the petals, which are broad but much recurved, are pure white.

The flower is also effective both in size and form. It is a star of the first magnitude. The tube is somewhat short and is not closely folded. The lip is very long and broad, rounded near the throat, flattening and curving down towards the apex, but the tip is elevated and, like the petals, beautifully fimbriated. Considered in relation to no special feature, but as a whole, this noble Cattleya has a dignity and charm that command the deepest admiration. Fig. 38 represents it.

ONCIDIUM INCURVUM.

THIS beautiful Mexican Orchid was exhibited in good form by Messrs Pitcher & Manda of Hextable on September 6th at the Drill Hall. Few Orchids are more easily grown than this, as a cool house will suit it the whole year round. The pseudo-bulbs are ovate and ribbed, the leaves stiff and bright green. The paniced racemes are 2 to 4 feet long, bearing hundreds of small flowers; the sepals and petals are wavy, and banded with white and purple, while the roundish lip is pure white. The plants grow freely, and should be potted firmly in peat and sphagnum. A well-grown plant in a 24-sized pot will bear six to ten racemes, which bend gracefully, and greatly enhance the beauty of the Orchid house in autumn and winter.—C. K.

CYPRIPEDIUM PARISHII.

SEVERAL plants of this interesting Ladies' Slipper were exhibited at the Drill Hall, Westminster, on September 20th. It is a native of Moulmein, and should be grown in the East Indian house in fibrous peat and loam, with a little chopped sphagnum. The plant was originally discovered by the Rev. C. Parish in 1859, but it was not until 1868 that living plants were first introduced. Messrs. Low & Co., Clapton, have the honour of being the first to import it alive. The leaves are distichous, leathery, and bright green. The flower scapes, which bear from three to six flowers, are slightly arched by the weight of the blooms. The dorsal sepal is greenish yellow, the lower one smaller, but the same colour. The petals are drooping and much twisted, 4 to 5 inches long; the basal half green, the upper half purplish; the lip deep green, stained with purple.—C. K.

RESTREPIA DENTATA.

A VERY distinct little species which has flowered in the Glanvin Botanic Garden on several occasions, and been sent to Kew for determination. It has a very marked peculiarity in the presence of a pair of slender, stipule-like teeth on the petals, one on either side, about the middle of the lanceolate basal portion, and these are decurrent below their free apex. The dorsal sepal and petals are semi-transparent white with three purple lines, the decurrent teeth of the latter being yellow. The lateral sepals are dull yellow, nerved with brownish purple below, and the lip brownish purple with the falcate side lobes deep yellow. Mr. Moore is unable to state its native country, though in all probability it comes from some part of the Andes.—("Kew Bulletin.")

ASPASIA BARCLAYI.

A SMALL species sent to Kew for determination by W. L. Barclay, Esq., The Briars, Reigate, in July, 1891. It is allied to *A. Principissa*, *Rehb. f.*, and *A. psittacina*, *Rehb. f.*, though its flowers are much smaller and otherwise different. The sepals and petals are of a very pale yellowish green with broad transverse light olive-green bands, and the lip white with some nearly confluent light purple markings in front of and beside the keels, and a pair of small yellow markings at the extreme base. In addition to the two central keels there are three or four obscure radiating ones on either side at the extreme base of the lip. Its habitat is not recorded.—("Kew Bulletin.")

JUDGING HERBACEOUS FLOWERS.

AS one who has for many years, long before the taste for them had been so developed as it happily is now, cultivated as far as his limited space would allow this most attractive and useful class of plants, and who has done his best to encourage this taste, and for that reason probably has been called upon to adjudicate upon them at many of our shows, the discussion originated by my friend the Rev. Lionel Garnett has had a peculiar interest for me, and I can give my testimony to the many difficulties that surround the subject. As your correspondent has appealed for opinions on it, I willingly add my mite to those which have already been given.

And first as to the question, What is an herbaceous plant? I remember the advice given to me by that master of logic, Archbishop Whateley, Avoid definitions. The wisdom of that is shown in this very subject, for I have not seen any definition of them that would not exclude some class or other amongst them. Some have said that they are plants which die down and come up again in the spring, but there are many of our most beautiful plants which remain above ground all the year. There are again others who think it ought not to include the Lilies or any other bulbous plants but while an exact definition might exclude these it would imply, I think, a great loss to our stands of herbaceous plants, of which they oftentimes form a very striking feature. There are many of our plants which are only biennials, but which are truly herbaceous,

though not herbaceous perennials, and it would be a great pity to exclude them from the stands. Is there, then, no limit to be placed on the plants which are to be set up? Yes, I think that all shrubby or hardwooded plants should be excluded. Hydrangeas or shrubby Spireas for example ought not to be admissible; one might as soon, I think, put up a bunch of single Roses.

As to what ought to be shown on a stand it seems to me that a few things should be clearly defined. In the first place it should be distinctly stated that all plants should be grown in the open air. It is not sufficient to say that they are hardy. I remember once seeing *Lilium auratum* shown at Manchester at the end of May. Now of course it is hardy; but the bloom exhibited must have been from a plant grown under glass, and this is not what is meant by a hardy plant. Many plants, too, are hardy in one part of England which are not in another, and therefore many might be surprised to find what are called hardy in a district with which they are unacquainted. I think then that it should be distinctly stated that all cut flowers in this class must be from the open air. It is different with Alpines. These are often grown in pots or pans; but as they are only shown at a few early shows it is unnecessary to say much upon them; they are never shown as cut flowers.

If I had my way I should always exclude all florists' flowers (as people now call them), from a stand—I mean such flowers as Phloxes, Pentstemons, and perhaps Delphiniums—and would certainly where a prize is offered for these in a separate class, but then I think it ought to be mentioned in the schedule. I have seen the same thing frequently done in the case of stove and greenhouse plants, from collections of which Fuchsias and other plants for which separate classes were provided were excluded. Where, however, they are admitted I am of opinion that only one bunch of any of them should be put up, and on this bunch it would not be necessary that they should all be of one variety; for that would entail the necessity of the exhibitor growing a large number of two or three varieties instead of a general collection. Moreover, the exhibit itself would be prettier by the number of varieties shown. I have personally a great objection to the Phlox as an exhibition flower; it very soon shows signs of flagging, and, if the day be hot, presents an unlovely appearance. My idea of a perfect collection of herbaceous plants would be that of one confined to species. However, I fear that this is not likely to find favour at present, and therefore I must be content with laying it down as a rule that where prizes are given for any flower in the schedule that flower should be excluded from the herbaceous stand, and that there should be only one bunch of such florists' flowers as are admissible.

With regard to Lilies, I think the case is entirely different. The different groups into which they are now divided present such totally different form and colouring that I do not think any limit should be put to them. Take, for example, *auratum*, *Harrisi*, *dalmaticum*, and any of the so-called Tiger Lilies; the *pardalinum* group, or the commoner forms of *tigrinum*. What can be more different? and how much they enhance the beauty of a stand. If I would exclude any—but this is simply a personal matter—it would be *auratum*, on account of its very heavy perfume. Where many of its grand flowers are shown the place becomes (to me) intolerable; but, of course, this would not entitle it to exclusion. I should not object to see in a stand of twenty-four varieties of herbaceous plants as many as half a dozen of Lilies, and then they should be as nearly distinct from one another as from any other flower in the collection.

Having thus indicated what I think ought to be and what ought not to be included in a stand, I now come to the very difficult question of judging them, and what is the determining point. Some say effect, and others the quality of the flowers. By quality I do not mean rarity, for this, I think, ought not to be taken into account; but by quality I mean the individual excellence of the flowers shown.

As to effect, there are two ways of viewing this; the production of a great mass of flower and its corresponding colour, or an arrangement which shows more the character of the plant without producing the same blaze of colour. This is one of those questions in which the idea in the mind of the judge must have a determining effect; it is so in other things. I have a neighbour who has been for many years an exhibitor of coloured Dorkings, and sometimes when I have asked him after a show how he got on, he has replied, "Oh! I knew I had no chance; old T— was judge, and he prefers so-and-so in the birds, and I do not go in for that." When one sees the gorgeous stands of bunches of herbaceous flowers shown by Mr. Burrell, there can be no question of their effect, even though some would say the bunches are like mops, and probably if the collection did not get first prize nine persons out of ten would say the judgment was bad; at the same time there is much more to be learned by the cultivator from a collection where the flowers are

set up with their natural habit of growth displayed. Let me, at the risk of bringing a house about my ears, give an instance which occurred during the past season at a show at X——. Two stands were set up by two well known amateurs, lovers of Roses and herbaceous plants. Long and anxious was the time spent in adjudication. They were each in their way of equal excellence, and it was a case in which I think equal first prizes might have been fairly awarded. They each had a rare plant, so that there was no advantage that way, if it is considered an advantage, although, as I have already said, I do not think it ought to be. One displayed a larger quantity of flowers in each bunch; the other showed more the habit of the plant, and was more elegant in its arrangement. I think anyone will see what a difficult task this was, and the diversity of opinion expressed by those who knew anything of the subject showed clearly that the difficulty did not exist only in the minds of the judges; the effect in both stands was excellent, but then it was a different kind of effect.

Frankly, then, I do not see how the variations in judging are to be avoided unless the schedule lays down very distinctly on what lines the judges are to decide. If they do not wish to encourage brilliant masses of colour, then it must be worded so as best to show the habit of the plants where practicable; and after all, perhaps it is one of those things which may be left to settle themselves. Managers of shows will keep their eyes open, and exhibitors will see what is required; and so, after a time, we may see stands of these delightful flowers which will satisfy the most exacting taste.—D., *Deal*.

PEACHES AND NECTARINES IN THE OPEN AIR.

THESE can be produced in great perfection in many places where proper care and attention are bestowed on the trees. In the far north and in some extremely cold districts they may not flourish, but in many cases where failures have taken place it is more the fault of the cultivator than of the soil and climate. I have seen gardens many miles to the south of where I write in which it was said Peaches would not grow on the open walls, only under glass, and the same remark has been heard many miles to the north. With an average amount of care I am of opinion that they can be grown, and that to a great state of excellence, in ordinary seasons.

On a recent visit to Wycombe Abbey I saw a grand crop of both Peaches and Nectarines on the walls. They were produced on both young and old trees. The secret of success seemed to be to keep the trees in a healthy state and never to allow the branches to become crowded. Where this is allowed to take place the shoots can never ripen thoroughly, hence weak blossom is the rule, and this is destroyed by the first frost in spring. Mr. Miles is so well known as a veteran grower both of fruits and vegetables that one expects to see everything well done, and the trees are living witnesses of good treatment. Many of them are getting old but still bearing excellent crops of fine fruit.

The system adopted is to keep on planting maiden trees year by year as space can be found, and by this means always having some well established trees at hand to replace any that show signs of decay. There can be no doubt that this is an excellent plan where space can be found on the walls, as the trees become acclimatised in a great measure, and they can be transplanted to any part of the garden required. An important feature in growing Peaches in the open air is to keep the roots as near the surface as possible, for when these get deep down into a cold subsoil the wood seldom ripens properly. I consider Peaches and Nectarines amongst the very best trees to transplant if done frequently. It is possible to transplant a large tree and secure a moderate crop of good fruit the same year.

All kinds of stone fruit prefer a firm soil, and unless this is given them failure is almost sure to follow. One-year-old maiden trees are the best to plant, as they can be trained into any desired shape according to circumstances. The object should be to secure as many young shoots as can be ripened; they must not be crowded. I would advise the very earliest varieties being planted, as well as some of the latest, so as to prolong the season. In the autumn as soon as the leaves have fallen the young shoots should all be loosened from the walls and only the old or main shoots left fastened up. This will, in a measure, prevent the trees from coming into bloom very early, as the cold winds will get behind the shoots and help to retard them. As a rule they should be protected from frost in spring, for no matter how much one tries to keep them back they will always be in flower before danger of frost is over.

The following varieties were all bearing good crops at Wycombe Abbey, and I may add that most of the varieties have not failed for years, although we are situated in an exposed part of the country.

PEACHES.—Alexandra, a large, handsome, first early variety; Waterloo, an American variety, bright red, of medium size, very early; Hale's Early, medium size, very early and handsome; Early Grosse Mignonne, very richly flavoured; Royal George, large and handsome when well grown, and one of the very best; Goshawk, an American Peach, and by many considered to be the best midseason variety grown; Crawford's Early, large and finely flavoured; Noblesse, large and richly flavoured, tree tender in some positions, but well worth growing; Bellegarde, large and good, one of the best; Dymond, tree hardy and very prolific, fruit large and highly flavoured; Sea Eagle, large, pale in colour, but of good flavour; Barrington, a strong grower, but the fruit is melting and excellent; Late Admirable, one of the best for late use; and Lady Palmerston, large and handsome, very late.

NECTARINES.—Lord Napier, without doubt the best early, it is large and handsome; Dryden, large, good grower and bearer; Elruge, medium size, one of the best; Violette Hâtive, large and highly flavoured; Stanwick Elruge, rich and good; Pineapple, handsome and finely flavoured; Victoria, very large, but should be planted on a warm sheltered wall; and Albert Victor, melting and good.

Both Peaches and Nectarines are named in the order in which they ripen. There are many other varieties that could be grown, but all those named can be depended upon to produce a good crop in ordinary seasons. To those who prefer Nectarines to Peaches, I can recommend Spencer as being one of the handsomest exhibited this season. Mr. Rivers speaks very highly of it, and describes it as one of the largest grown, and as being very rich and good.

It would be interesting if other growers would record their experience with outdoor trees, as it is by comparing notes that we gain knowledge which can be utilised at this season, when we should be preparing for giving any new or untried variety a chance by adding it to our selections.—J. SMITH, *Mentmore*.

NOTES ON HYACINTHS.

(Concluded from page 255.)

It will be necessary for them to remain in the plunging material about six weeks, but they should be carefully examined after they have been in a month, for they must not be allowed to draw while in this position. When once they have formed a good per-centage of roots they grow quickly, even rapidly, if the weather is genial. The ordinary methods of plunging amongst ashes, or covering them over, will not do when the object is to exhibit the plants. The position selected should be a north one, for it is better to retard at the commencement than near the show date. The crown of each bulb should be covered with a small pot, which will insure it against injury from any hard substance. The spaces between the pots can be filled in with coal ashes which have been passed through a fine sieve; in fact if cocoa-nut fibre refuse is not at hand they can be covered over with this material to the depth of 6 inches. If severe weather should intervene before the plants are removed from the plunging material they should be protected by spreading litter from the stable over the surface. There is no fear of injury by frost, but it might be impossible to examine them and remove them at the exact times required if frozen.

When removed from the plunging material they require the most careful treatment. They should be placed in a frame or structure from which frost can be excluded. The small pots should still remain on them, and a mat should be placed over the lights of the frame. In short, they should be most carefully and gradually exposed to light. Sudden exposure will ruin all chances of success. What growth they have made is in a highly blanched condition, and the object is to admit light so gradually that injury to the foliage or the spike cannot take place. When green they should have a light airy position near the glass at once. Do not place them on a shelf, it is too dry for them; they delight to stand on a cool moist base. To give them these conditions I would rather have them a small distance from the glass than close to it on a shelf. The object from this time is not to push them into growth, but to allow them to grow as naturally as possible. Artificial heat should not be used, except to exclude frost. Bear in mind that a close confined atmosphere, if only for a short time, is certain to increase the length of the foliage, and to some extent destroy its sturdiness, while it also increases the length of the flower spike from the top of the bulb to the base of the flowers. This tells against the plant on the day of exhibition. The chief aim of the cultivator must be to treat the plants as naturally as possible, shielding them only against the adverse circumstances that would tell against them in a state of nature. When the season is fairly advanced a cold frame is the proper place for them, and if they display the least signs of coming on too fast they should be removed to a frame with a

northern aspect. When well grown they need no staking except for removal to the exhibition, when a stake is necessary. A stake, however, should be used to prevent the spike falling from any cause and being broken.

The plants should be watered after they are removed from the plunging material, and from that time they should never be allowed to suffer by an insufficient supply. At first growth is slow, very little evaporation takes place, and water should be given with care. If they are over-watered the foliage is very liable to take the lead of the spike, which must be prevented, and which can only be accomplished by care and judgment. When rich soil is given stimulants in a liquid state should be supplied with care; the plants will not need much extra support. Clear soot water acts quickly in the later stages, and imparts a fine dark green hue to the foliage. Liquid made from cow manure, fresh, tied up in a bag, and placed in a tank of water, is also good when used clear. After they reach a certain stage feeding assists the plants in lengthening out their flower spike.

Dressing I need say little about. Those with large loose bells do not lend themselves to the dresser's skill readily, and can very rarely be improved much. The case is different with those that have their bells thickly set on the spike. They would often be too crowded, and fail to show their bells individually, unless one here and there were removed. Bells that have short stems, and which would destroy the symmetry of the bloom, are those that should be removed, they will make room for the others. The spike can be lengthened by slightly pressing down the lower bells and filling up the top; if this is well and carefully done the top of the spike can be made full and even, while the base can be rendered symmetrical. The varieties that tell best are not, as a rule, those of loose habit, but those that are full and by a little arrangement of the bells have full, large, shapely spikes with well developed bells. Nothing can be done at the foliage to improve the plant. If they are well grown there is nothing to be done, but if poorly grown, and any attempt is made to improve the foliage, they are only disfigured in the eyes of those who know what a well grown Hyacinth should be.

A plant with too little foliage is as bad, speaking from a judge's point of view, as a plant with too much—that is, with its foliage too long. The latter would, no doubt, take precedence, because it would possess the best spike and bells. Having plants with the foliage drawn may be due to two causes at least—first, hurrying the plants in their last stages, or growing them in too confined an atmosphere. If the plants are too early, and they have to be retarded, up goes the foliage and the stem of the spike. Unfortunately, also, the flowers lack that brightness of colour which young fresh flowers possess, or those that have been well grown and staged at the right age. The plant that is deficient in foliage according to its age very rarely has a first-class spike; if it has it is an accident, and would have been wonderfully good had all gone well. A plant deficient in foliage is also deficient in roots. If the spike is of fair size, which sometimes is the case, the flower lacks colour, substance, and size of bells.

A list of varieties will not be given, because all good catalogues contain the most suitable sorts distinguished by some mark or other. The amount to be expended on the bulbs must also very largely determine the selection to be made.—WM. BARDNEY.

THE NEW GERMAN CARNATIONS AND PICOTEES.

SINCE Mr. Benary of Erfurt introduced the famous yellow *Carnation Germania*, the finest of all the yellow selfs, much interest has been felt by many leading cultivators in the new varieties annually raised at Erfurt, and some very fine varieties have been introduced by Mr. Benary—notably, *Stadtrath Bail*, *Theodor*, *Esmarsh*, *Sarony Unger*, *Von Bennigsen*, *William Dreer*, *Madame Van Houtte*, *Van Dyck*, *Von Helmholtz*, *Schleiben*, and others. Many of them are novel and most pleasing in their shades of colour. The autumn of 1891 brought a batch of other new sorts from Mr. Benary which have been well tested this season at the *Sparkhill Nurseries*, *Birmingham*, by Mr. Herbert, and from amongst them the following will be welcomed by growers as acquisitions—viz., *Johann Huss*, lemon ground flushed with delicate pale rosy pink, a very lovely and distinct variety; *Heinrich Engel*, maroon and scarlet flaked, the latter colour very bright, a large, distinct, and very fine flower; *Brockhaus*, orange-salmon ground colour, flaked and barred with heliotrope, fine form, a well-built flower, distinct and extra fine; *Justus Meyer*, a very distinct flower of an almost indescribable colour, a rich brown lilac tint with a bright satiny surface, and flaked with scarlet, and here and there a crimson bar; *Mommson*, orange ground flaked with crimson lake, with a distinct broad margin of bright heliotrope, a beautiful

and distinct variety; *Klopstock*, a deep rosy carmine self, a bright shade of colour, and of fine form; *Gilbert*, a grand flower with fine broad petal and of full size, rich bright rosy carmine; *F. A. Haage*, orange ground colour flaked with carmine and deep heliotrope, fine and quite distinct; *Consistorialrath Reush*, a very distinct flower with a large extent of canary ground colour, flaked with a crushed strawberry shade of colour, fine petal and form, and distinct; *Celsius*, yellowish buff distinctly flaked with scarlet, a very distinct and fine *Carnation*; *Emilia Galotti*, pale lemon suffused with salmon, good form and distinct; *John Benary*, shaded rosy pink with orange-scarlet and rosy-purple bars, very distinct and fine; *Pastor Schultze*, primrose yellow ground with flakes and bars of bright violet purple, a distinct and fine variety; *Cordula*, a blue tinted slate ground flaked with bright scarlet, a very distinct and fine variety; and *Schlosser*, sent out in 1890, creamy yellow ground flaked and broadly bordered with heliotrope and bright rosy crimson, broad petal, of fine form, and distinct.

Several other new varieties were introduced in the autumn of 1891 by Mr. Benary, some of which are very curious in their markings and colours, but will not be regarded as acquisitions for exhibition purposes. If new varieties are to become popular amongst the growers for exhibition the flowers must be of very fine form, and possess other good properties. Others of Mr. Benary's will have another season's trial. English cultivators are greatly indebted to him for introducing some extremely fine varieties, with new shades of colour. Almost all his new varieties have good constitutions, and are strong growers, producing plenty of "grass" or offshoots. Mr. Benary was present at the last August Exhibition of the *Midland Counties Carnation and Picotee Society* at the *Edgbaston Botanic Gardens*, *Birmingham*, and had an opportunity of seeing how well his new varieties have been grown and exhibited, by the midland growers especially.

Another florist in the neighbourhood of Erfurt also introduced during last autumn some new varieties of German origin, and has evidently a good strain, rivalling in some respects Mr. Benary's. Amongst Mr. Ferdinand Jühlke's new varieties the following are acquisitions—viz., *Frerna Beweoldt*, bright yellow ground, with flakes and bars of bright crimson maroon, and quite distinct; *Don Juan*, creamy yellow, flaked and barred with bright plum and crimson; *Mazeppa*, orange ground colour suffused with bright carmine and flaked with maroon, a fine and very distinct flower; *Beethoven*, orange ground, heavily flaked, and marked with deep heliotrope; and *Golfina Hoffmann*, white ground, heavily barred with bright rose, tinted mauve, and edged with a deeper shade of colour, a handsome variety of dwarf compact habit.

All the varieties enumerated in these notes are classed as *fancies* or *selfs*, *Carnations* and *Picotees*. They are becoming very popular for decorative work, either in pots or in borders, and they last well in a cut state in rooms. For conservatory and indoor decoration plants can be easily grown in 5 to 6-inch pots, and they are beautiful when so grown.—W. D.

POTTING MARGUERITES.

THOSE whose stock of these useful plants is limited should make a point of potting as soon as possible plants which are now growing in mixed borders or in the flower garden. No doubt many will be reluctant to spoil, to a certain extent, their bedding arrangements; but it is not safe to defer this work any longer if the plants are wanted to supply cut flowers during the winter, for a few degrees of frost seriously cripple the young shoots, on the points of which flower buds have already formed.

Marguerites which have been used as dot plants are the best for the purpose, because on account of their being thinly disposed the growth made is sturdy and floriferous. In many instances such plants can be lifted without spoiling the appearance of the beds; in our own case it is so. We have them as dot plants along the centre of large beds, in which Ivy-leaved *Pelargoniums* form the groundwork. A few pegs will be removed from these, and the shoots laid aside. It will then be a simple matter to cut round the *Marguerites* with a spade, and lift them with good balls of earth. The less these balls are disturbed the slighter will be the check upon the plants, but it is sometimes desirable to place large plants in comparatively small pots; a considerable amount of the soil must then be removed and the roots cut clean with a knife before the plants are potted.

This treatment will cause them to suffer severely for a time, but it is really surprising how quickly these accommodating plants recover from the check. A few weeks ago I had occasion to pot a few which were about 2 feet in diameter, the roots of which had run rather wide, and only an imperfect ball could therefore be obtained. These were potted into 7 and 8-inch pots, placed behind a north

wall, thoroughly watered, and kept syringed four times a day. Notwithstanding these attentions the plants flagged so badly that I reduced the growth on some of them by about one-half. I soon regretted having done so, however, for those not reduced had thoroughly recovered in a fortnight from the time of lifting without—as far as I can see—the loss of one flower bud, and only a very few leaves. These plants are now flowering freely, and promise to continue doing so for a long time to come. I mention this to prevent others from being discouraged should their plants flag badly after being lifted. When this happens some are inclined to believe the thing cannot be done satisfactorily, and therefore discontinue the necessary attention, when, of course, unsatisfactory results follow.

Plants potted up now should be placed where they are safe from frost; deep cold pits, where they can be kept close, as well as syringed and shaded, are the best positions for them. Vineries or Peach houses, where there is plenty of foliage overhead, and no fruit hanging to prevent syringing being done, are fairly good positions, or they may be placed in a shady place in the open air for a couple of weeks yet if no very sharp frosts occur. While in the latter position it will be necessary to devise some means of covering with mats or canvas whenever frosts threaten, at other times the cool night air and heavy dew will help them wonderfully towards recovery.—H. DUNKIN.

WHEN ANNUALS ARE NOT ANNUALS.

THE following very interesting extract is from a number of contributions to the life histories of plants, by Mr. Thomas Meehan, at the Academy of Natural Sciences of Philadelphia. Perhaps some readers will note with surprise the American savant's conclusions that "any annual may be made perennial:"—

Prof. Theo. Holm, of the Smithsonian Institution, is the author of a suggestive paper on the vitality of some annual plants. He notes a number of species generally recognised as annual which frequently furnish biennial or perennial individuals. Such observations are especially useful, for it is deviation from general rule that furnishes us with keys to unlock the great treasure-box of Nature's secrets. If we can show that annuals are not always annuals, but sometimes become perennials, we have the opportunity to watch the process, and learn as the work goes on.

Horticulturists must have long known, without giving the matter serious thought, that annuals become perennials under some circumstances. Petunias, Gaillardias, and indeed I can think of no annual plant of any kind whatever, that the horticulturist cares to preserve, that he cannot preserve from cuttings when he so desires. Even in the case of those annuals which throw up only a single flower scape, he plucks off the flower head before the flower buds expand, cuts up this flower stem into sections, and raises plants which will live continuously for many years, if annually treated in the same way. Annuals or biennials will live for many years if the flower buds are plucked out as soon as they appear. The author of this paper has seen Mignonette six years old that has been treated in this manner. Annual parts of perennial plants also live over when propagated in the same way. Perennial Phlox, Hollyhock, and similar plants are raised from sections of the flower stems which have had their flower heads taken out a few weeks before they were cut into the segments desired.

It is worthy of remark that few plants except those which we distinctly recognise as ligneous, have perennial parts. The Potato lives only through the tubers it makes annually, and even the Strawberry plant will be found to be dead below the addition of the past year. Gladioli, Lilies, many terrestrial Orchids, and numerous other plants, only live over through the additions of the preceding year. The older portions die after new portions have been formed. In brief, the power to produce offshoots or stolons is really the only difference between the annual or perennial herbaceous plant.

It may now be further noted that, morphologically, there is no difference between a stolon and a flower scape, a rhizome or a permanent flower stem. The Strawberry is one of the best illustrations of this. The "Bush Alpine" never makes a "runner"—all that would be stolons becoming erect flower scapes. The transitions between flower scapes and stolons may be seen at any time by the careful observer. But the flower scape is an annual, while the stolons remain over until another season.

We may now consider the causes inducing the annual or the more enduring conditions. It is now well understood that though the reproductive condition of a plant is a natural outgrowth of the vegetative, there is a certain antagonism between them. The husbandman must root-prune, or take off a ring of bark, or practise some such severe measure, before an extra vigorous tree can be

made productive. On the other hand even sound trees have been led to death's door by over-bearing. Annuals die from no other cause than by the heavy draft on vital power through bearing seed so early and profusely, with nothing but a single rootstock to provide nutrition for the whole.

Professor Holm, though he is not clear whether it is climate, soil, cultivation, or other cause which leads the annual occasionally into the perennial class, quotes Lange as showing that *Carex eyperoides*, under normal conditions truly annual, is "able to vegetate several years when it happens to live without flowering." Several years ago I had a number of plants of the Caraway, *Carum Carui*, transplanted after they had commenced to push up flower stalks. As the flower stalks withered, they were plucked out to the base. All the plants became bushy perennials! Profiting by the hint I have some plants, with the stems annually plucked out, that are now four years old.

Going back to the Strawberry, why does the scape die the same season, and the stolons endure? Is it not that the stolons, sending out roots at the end which form leaves instead of flowers, are under more favourable conditions of nutrition? The scape is drawing heavily on vitality which the unfavourable conditions of nutrition do little to sustain.

I have little doubt but that any annual may be made perennial by persistently destroying the flower buds as they appear. When we see in a state of nature, some few plants survive while numbers perish the season of their birth we may reasonably look for some circumstances which in these plants led them to bear seeds less profusely than others, or to some other condition which aided the vegetative in its struggle with the reproductive forces.

CUCUMBERS AT FARNHAM, SURREY.

PHOTOGRAPHIC pictures of crops of hanging Cucumbers sometimes shown have elicited much credulous surprise, because of the astounding abundance of the crop. Of course these pictures do not represent crops in course of cutting for consumption, because in such cases the fruits are cut as soon as ready. Plenty of counterparts of these Cucumber pictures may, however, be found in houses where plants are grown to produce seed, and especially was this the case at Mr. Mortimer's Swiss Nursery, Farnham, recently, where many large, long houses are devoted to Cucumber production for seed purposes. It is not at all improbable that he has this season fully 5000 fruits to clear out, and will thus harvest considerably over half a million seeds. The varieties grown almost exclusively, and each one in separate houses, are Telegraph, Improved Telegraph, Tender and True, Lockie's Perfection, Epicurean, Matchless, and Success. The latter variety, which is one of the largest and certainly handsomest of Cucumbers, was certificated during the present year by the Fruit Committee, and it will be very difficult to excel it in beauty as well as in length and general appearance. It may be of some interest to state that the immediate parents of this variety were Express and Prizewinner, the latter a handsome variety but not sufficiently free. Its parentage is not known. Express is the product of Tender and True × Purley Park Hero, which is one of Mr. Mortimer's earliest seedlings. Success runs about 24 to 30 inches in length, is slightly spiny, very even throughout, has hardly any handle, and is particularly handsome and productive. Last year the Fruit Committee certificated Matchless, which, whilst also very handsome and green in colour, was found to be rather too short for exhibition purposes. When the other day at Reading a brace of Success were shown no other fruits could at all compare with them in form or beauty. Matchless came from Express also × Lockie's Perfection. Purley Park Hero came from Improved Telegraph × Model. It would be very interesting were the various pedigrees of all fruits and vegetables carefully recorded.

The houses in which the Cucumbers are grown at Farnham are both lean-to and span. The borders for soil are very shallow, not more than 5 to 6 inches deep and 18 inches wide. The soil is the best stiff turfy loam the district will afford, and to it is added a moderate portion of horse droppings; a couple of dressings of Thomson's manure (one of the best for Cucumbers) are given during the season. Prior to the planting of the Cucumbers in some of the houses a crop of early Tomatoes is secured, and as soon as the Cucumbers are off the houses are filled with plants for the winter, especially Chrysanthemums. Even Tomatoes do not get surplus soil, for in one house of Perfection—a large span, 60 feet by 10 feet—the plants have only a shallow 18-inch wide border, and the plants are 16 inches apart. Coleus for seed are very largely grown; the varieties are of all descriptions, whilst the major portion are seedlings. The long spikes of tiny blue flowers bear a very pleasing appearance. Seed is sown the third week in March, the plants flowering in large 32's; of course, for the production of flower the plants are not stopped. Other houses are devoted to the growing for seed of beautiful Celosias in various colours, also of a very fine dwarf crimson race of Cockscombs. A very large stock of small sturdy Fuchsias in great variety is kept, and from these are propagated in the spring tens of thousands of cuttings, which are sent out to the trade in a rooted state. Somewhat stunted plants in 32's and 48's seem to give the stoutest and most liberal supply of cuttings when wanted in the spring.—A. D.



EVENTS OF THE WEEK.—The usual Committee meetings of the Royal Horticultural Society will be held at the Drill Hall on Tuesday, October 4th, when prizes will be given for hardy herbaceous perennials, and a paper on Michaelmas Daisies will be read by Mr. D. Dewar. On the 5th, 6th, and 7th, a great Show of Fruit and Potatoes will be held at the International Horticultural Exhibition, Earl's Court. On the evening of the 5th the annual dinner of the United Horticultural Benefit and Provident Society will take place at the Cannon Street Hotel at 6 P.M., J. Fraser, Esq., of Lea Bridge, presiding. On Friday, September 30th, there will be a great sale of Cattleya Rex and other Orchids at Messrs. Protheroe & Morris' rooms by order of Messrs. Linden. For particulars of other sales see advertisements.

— **THE WEATHER IN LONDON.**—Although the weather has been less settled during the past than it was during the preceding week there has been no appreciable amount of rain, only a few light showers having occurred to break the generally fine and warm weather. On Tuesday evening the cyclonic disturbance which reached the north-west coast appeared to have touched London, as a somewhat high wind prevailed and a little rain fell, but at the time of going to press the weather is calm, clear, and promises to be fine, while the barometer is rising.

— **ROYAL HORTICULTURAL SOCIETY.**—At the next meeting of the Royal Horticultural Society, which will take place in the Drill Hall, James Street, Westminster, on October 4th, prizes will be offered to amateurs for hardy herbaceous perennials, and a paper on Michaelmas Daisies will be read by Mr. D. Dewar, which should be of much interest.

— **NEW WORK BY MR. WILLIAM PAUL.**—We have received a copy of Mr. William Paul's "Contributions to Horticultural Literature," being a selection of articles written for gardening periodicals and papers read before various societies from 1843 to 1892. An admirable portrait of the author adorns the work. We shall take another opportunity of referring to this instructive volume.

— **CARNATIONS AS ANNUALS.**—I herewith send you a few flowers of Marguerite Carnations, from seeds sown on February 11th this year. The plants have been blooming for about ten days. They were established in 5-inch pots by the end of May, at which date they were plunged in the open, and placed in a cool Peach house as they came into bloom. No doubt better blooms could be produced in the same time by giving larger pots.—R. I. [Bright, varied, and sweet. With the improvement in the flowers that is likely to be effected, we shall have a very valuable class.]

— **A WELSH FUNERAL.**—Mr. William Wright, gardener and bailiff to G. T. Clark, Esq., Talygarn, South Wales, who died on the 21st inst., was interred on Saturday last. It appears to be a custom in Wales to show respect to deceased friends by assisting in carrying the bier. About sixty persons, the majority being workmen on the Talygarn estate, preceded the coffin, four of these taking the bier in turn for short distances, till most or all shared in the mournful duty. The changes were done with such order and regularity that there was scarcely a pause in the procession. There was also a large number of followers. The coffin was laden with beautiful wreaths from Mr. and Mrs. Godfrey Clark, Miss Wyndham Lewis, the officers of the United Horticultural Benefit and Provident Society as a token of respect towards a deceased brother and ex-member of Committee; Mr. A. Pettigrew, Cardiff Castle Gardens; Mr. G. W. Cummins, Hackbridge Gardens; the family of the deceased, and from his brother, Mr. J. Wright of the *Journal of Horticulture*. The family of the late C. M. Major, Esq., Cromwell House, Croydon, to whom the deceased was formerly gardener, also sent flowers. Mr. William Wright (who had only had twelve birthdays, having been born on the 29th of February) was a highly competent gardener, also a good farmer, and he had a wide and intimate knowledge of estate work generally. His services were much appreciated by his employers, whose kindness during a protracted illness was unbounded. The deceased had been an unusually strong and healthy man, described by Mr. Pettigrew as a "Hercules." Bright's disease, which followed a severe attack of the influenza last autumn, was the cause of death.

— **DEATH OF MR. LUPTON OF WAKEFIELD.**—Horticulturists in Yorkshire, and particularly those interested in the Wakefield Paxton Society, will hear with regret of the death of Mr. Lupton, host of the Saw Hotel in the town named. He took a great interest in gardening, and was a sincere friend to the Society.

— **FINE MUSCAT HAMBURGH GRAPES.**—When at the Kingswood Show I saw the three best bunches of Muscat Hamburg that I have ever seen. They weighed collectively 9½ lbs., were very regular, and as black as Sloes. The owner, Dr. H. Grace (a member of the great cricketing family), was very proud of them.—W. I.

— **MAGGOTS IN PEACH TREES.**—Can anything be suggested that will prevent maggots boring into the stems of Peach trees, causing them to gum badly? They attack one after the other, and I very much fear they will go all through the house. If any of your readers have had anything of the kind to deal with they may be kind enough to help me.—J. B.

— **ASTER NOVI-BELGII LADY TREVELYAN.**—For free flowering it would be very difficult to find any variety of the Michaelmas Daisy family that excels the one here named. It is a somewhat tall grower and of ample proportions, covering itself with a dense cloud of small white flowers. It forms one of a large collection in the nursery of Messrs. Laing & Sons at Forest Hill.

— **FRUIT EVAPORATION.**—Visitors to Earl's Court on the occasion of the great fruit and vegetable Show, which opens next Wednesday, may be interested to hear that demonstrations of fruit evaporating will be given in the gardens of the Royal Horticultural Society at Chiswick on October 5th and 6th by Messrs. Ph. Mayfarth & Co. The process is very interesting, and as the gardens, which possess many other features of interest, are easily and quickly reached from Earl's Court, some may like to "do" both functions.

— **IXIAS.**—Among early summer-flowering bulbous plants Ixias are deserving of a prominent position. When cultivated in pots they are very ornamental and attractive for greenhouse and conservatory decoration. They bloom most profusely, are invaluable as cut flowers, and possess a variety of colour rarely seen in any other class of bulbous flowering plants. They require similar treatment to Freesias, with the exception that they do not require much heat—in fact, they succeed best without any. The best plan is to keep them in a light airy position throughout, taking care to avoid draughts.—G. P.

— **THE BLUE PIMPERNEL.**—When I saw this very charming old garden flower, called where growing at the London Road Nursery, Reading, *Anagallis grandiflora* Phillipsi, the other day, I could not but feel surprise that so lovely a blue flower was not employed by those who have to furnish bedding displays in the summer. Not perhaps of itself would it do, but intermixed, as an edging for instance, with *Mesembryanthemum cordifolium variegatum* how beautiful it would be. Blue flowered plants are somewhat scarce in gardens, especially of that rich deep blue which characterises the flowers of this Pimpernel. The large red variety is also pretty, but the blue naturally seemed to be the most striking. The variety would also make an effective groundwork for rich coloured Begonias. It is a natural ground creeper, and requires very little attention. It can be propagated by seed, for it comes very true, and also by cuttings kept through the winter.—A. D.

— **FREESIAS.**—Freesias are among the most beautiful and handsome of all the Cape flowering bulbous plants, possessing grace of form and being admirably adapted for greenhouse culture in pots. The plants attain to a height of from 9 to 12 inches, according to the variety, *F. refracta alba* being rather taller than *Leichtlini*. The flowers are very attractive and deliciously fragrant, one pot of five or six bulbs being sufficient to perfume a whole house, and when cut and placed in water they retain their perfume for a long time. If the bulbs are not already potted no time should be lost in performing that operation. A compost of good fibry loam, leaf soil, and dried cow manure, with a sprinkling of silver sand, will suit them admirably. Use 5 or 6-inch pots, placing six or eight bulbs in a pot. The different sizes should be placed together, in order to have plants uniform in strength when flowering. Water sparingly until growth commences. A frame where frost can be excluded will be best till the young shoots appear, when they should be removed to a greenhouse, as plenty of air and a light position are most conducive to a dwarf sturdy habit. When the flower spikes appear the plants should be removed to where more heat can be applied, as a much finer display can be obtained than is possible if grown in a cooler temperature.—G. P.

— **EUCOMIS PUNCTATA.**—The usefulness of *Eucomis punctata* for greenhouse decoration is well exemplified at Forest Hill just now, where Messrs. Laing & Sons have a number of well grown plants interspersed with other occupants of a flowering house. They give a very distinct and handsome effect, the tall spikes rising well above the majority of their associates. *E. Regia* is also grown and is a noteworthy object.

— **PRESTON AND FULWOOD HORTICULTURAL SOCIETY.**—The forty-eighth monthly meeting of the members and subscribers will be held in the large room of the Legs of Man Hotel on Saturday evening, October 1st, 1892, when Mr. W. P. Roberts of The Gardens, Cuerden Hall, will read a paper on "the Cultivation of the Fuchsia." The chair will be taken by the President (J. Humber, Esq.) at 7.30. Prizes are offered by Alderman Galloway, J.P., for six dishes of outdoor fruit, distinct; and by the Secretary for two bunches of Grapes, any variety.

— **NEWCASTLE AND DISTRICT MUTUAL IMPROVEMENT SOCIETY.**—We are glad to record satisfactory progress on the part of this young body of horticulturists, and to note, in the first annual report just issued, that the financial statement shows a substantial balance on the right side. The membership is rapidly approaching 100. Many excellent papers were read during the Society's first season. Its meetings are held in the hall of the Literary and Scientific Institute, Westgate Road, on the second Wednesday of each month, at 7.30 P.M.

— **ASTER AMELLUS BESSARABICUS.**—This variety is now making a brilliant display in the herbaceous border, reminding one of the near approach of autumn. It is undoubtedly the finest of all the Michaelmas Daisies. The height which it attains to renders it suitable for so many purposes that the wonder is it is not more often seen in private gardens. As an edging to a mass of *Chrysanthemum Madame C. Desgranges* it is very suitable, as both plants flower at the same time. In the herbaceous border, now that the August dazzle is past, this *Aster* supplies a want. Its deep purple flower heads are very showy, and its habit is compact, growing not more than 2 feet 6 inches high at the most. Like the bulk of the family propagation is a simple matter—by dividing a good sized root numbers of plants can be obtained.—E. M.

— **TRITOMA GLAUDESCENS.**—This is decidedly the best of the Flame Flowers, as it produces its torch-like blossoms much more freely than any other, and much earlier than the type *uvaria*. While the latter shows no signs of flowering the former is at this date (September 8th) in full blossom. The colour of the flower is inclined to golden orange on the lower part, not being so red as *uvaria*. *Tritomas* are not suitable plants for the ordinary herbaceous border; they need all round space to show off to the greatest advantage. We have them growing at the present time in just the place which suits them—on the grass in a part of the garden which is not mown with the machine but cut over occasionally with the scythe, the plot being mainly occupied with bulbs. In this particular spot, where the foliage has free space for development, the *Tritomas* grow well and look their best. Another place is by the water side. In an artificially built pocket 9 inches square, close to the water, one plant has twenty fully developed spikes, and as the background is mainly composed of *Rhododendrons* the effect is enhanced considerably.—E. M.

— **ASTERS.**—This year *Asters* have been finer than I have hitherto seen them, although the cultural treatment was the same as that bestowed upon them before, so that the marked improvement in the size, form, and colour of our *Asters* this year must be attributed to the particular strain (Webb's) grown this season for the first time, and not to any special treatment. The flowers of the several varieties contained in the "Wordsley collection" are unusually large, deep, full, and of fine and well-defined colours, ranging from pure white to rich crimson. They have been and are still greatly admired by all visitors to these gardens. The seed was sown in a cold frame in light fine soil placed within a few inches of the glass and covered lightly with some mould of the same description, which was then patted down with the back of a spade to compress seed and soil. Afterwards they were watered through a fine rose and the frame kept close and shaded until the seedlings came up, when a little fresh air was admitted to them, the quantity being gradually increased until the seedlings were transferred to the borders where they are flowering. The plants were 1 foot apart, and the dwarf growing ones were placed nearest the walls, a showery day being chosen for the operation, and the plants afterwards watered (in the absence of rain) every afternoon until the roots had taken well to the soil, when water was afforded less frequently. The only other attention they got or required was to keep them free from weeds and give them needful support in the way of sticks and ties.—H. W. WARD, *Longford Castle*.

— **THE MIGRATION OF APHIDES.**—The usual autumnal migration of aphides has been taking place across this district during the last few days, being somewhat later than usual. According to the popular belief it has happened in that cloudy, comparatively calm weather when people say there is a "blight." The motion of the majority of them seemed to be in a westerly direction, and they are probably journeying from the districts where many Hop grounds are situate to deposit next season's eggs on fruit trees and shrubs. It appears to be the general opinion about here that a hives of all kinds have been less in number than the average during this season. The fact is notable, because experience rather tends to indicate that a dry spring, such as we had, is favourable for their increase, and therefore an opposite result might have been expected.—J. R. S. C., *Gravesend*.

— **CHARLES' ECONOMIC PEST SYRINGE.**—A useful sprayer has been invented and patented by Mr. W. F. Charles of Loughborough. It consists of a can holding about a quart fitted with a brass screw cap, an air chamber having a network covering, a connection with an india-rubber ball, and a long brass tube fitted with slit and rose nozzles. The can is charged by unscrewing the cap, and on the latter being replaced and the air-ball squeezed until the net-protected chamber is distended, a thin stream or spray is given off according as the slit or rose-nozzle is used. The spray is carried to a distance of several feet, and falls in a dew-like state, while owing to the nozzles being adjustable, it can be directed either on the lower or upper side of the foliage. It affords a ready means of distributing a liquid insecticide on plants in greenhouses or windows, and amateurs in particular would find it very useful; moreover it is cheap. Messrs. Messenger & Co. of Loughborough, the well-known hot-water engineers, are introducing it.

— **NORTH OF SCOTLAND HORTICULTURAL ASSOCIATION.**—The annual meeting of this Association was held on September 21st, Mr. C. S. France, President, in the chair. The Secretary's and Treasurer's reports were read and adopted. From the accounts it appeared that there was a balance to the credit of the Society of £17 16s 10½d. The following office-bearers were then appointed:—President, Mr. C. S. France; Vice-President, Mr. G. Ross, Cranford; joint Secretaries, Mr. William Reid and Mr. J. Minty; Treasurer, Mr. Wyllie. The name of the Association was altered to the "North of Scotland Horticultural and Arboricultural Association." To Rule 3 the following addendum was made:—"Amongst means for extending the objects of the Society we are to grant awards for essays on and for collections of native herbaria and woods." Rule 5 was altered to admit apprentices at a subscription of 1s. per annum. Three silver medals were offered as awards for the subjects mentioned above—a maximum sum of £3 3s. being voted for the purpose. The usual votes of thanks concluded the meeting.

— **GIANT ONIONS.**—The report of the Banbury Onion Show rather leads to the inference that the chief object in raising new sorts of Onions is to get the biggest imaginable. Why should we set up a standard of that kind for Onions? It is not tolerated in any other vegetable. What, for instance, would be said of giving prizes to Potatoes or Turnips that weighed over 2 lbs. each? What earthly benefit to gardening is going to result from that sort of thing? I am very certain that no gardener would care to have for his main crop of Onions bulbs weighing 2 lbs., and it is also morally certain that any good average crop of 6 oz. to 8 oz. bulbs will give greater weight per rod of ground than the heaviest exhibition bulbs ever seen. All who are familiar with the method of culture adapted to produce these enormous bulbs know that each bulb occupies on the ground fully four to six times the area allotted to ordinary main crop Onions, also that they get fully double the amount of manure, feeding, and attention that ordinary crops receive. Further, when got they seldom keep into the winter, and finally they never would be grown as they are without the prospect of winning prizes. Moreover, the method of culture adopted, by generating a corpulent and weakened constitution, deteriorates the seed stocks of these big varieties, which for that purpose should be grown as ordinary crops for common use. Just recently I saw growing stocks under what may be called good ordinary culture, that is, had ample room and no special feeding, the Sutton's Globe and Sutton's Al, the former one of the most perfect globe or egg-shaped forms I have seen, as firm as bullets, and with skins as sleek and glossy as could well be conceived. These bulbs ranged from 7 to 9 ozs. each, and would keep well till next May. The other is a flatter Onion, but with a deep round base, and is also a fine stock, giving very even, clean, hard bulbs of good size. These stocks were just the kind that gardeners or growers for market would delight to possess. I should like to be taught the domestic value of Giant Onions.—A. D.

— BROCCOLI MICHAELMAS WHITE.—The fact of the bulk of our stock of this Broccoli turning in now proves how much this vegetable, like many others, is influenced by the weather. The great heat experienced during June and July brought the plants on fast. It is necessary in our soil to plant early to grow the plants into a good size before autumn. So good and close are the heads that it would be difficult to distinguish them from Veitch's Autumn Giant Cauliflower, and they have proved very useful in place of the last named. One head measured was 22 inches in diameter, which is exceedingly large even for a Broccoli, and this was produced on land which has been devoted continually to the Brassica tribe for the last twelve years, in spite of the assertion of some that this crop will not succeed even two years in succession on the same ground.—E. M.

— EDUCATION IN GARDENING AT EDINBURGH.—A bold and liberal scheme has been matured by arrangement between the Commissioners of Her Majesty's Works and the Board of Agriculture, whereby working foresters and gardeners may secure at the Royal Botanic Garden, Edinburgh, on very easy conditions, a thorough education in the principles of their arts and in the sciences on which they depend. The curriculum, which will extend over two and a half years, will be free of charge to those who are admitted, and the Council even propose to find employment at a moderate rate of remuneration in and about Edinburgh, and to some extent in the Botanic Garden itself, for young men from a distance, with a view to enable them to support themselves during the period of study. It is also suggested that the County Councils and other bodies having control of the administration of funds which could be allocated to such a purpose might, in different localities, see their way to making small grants to aid men desirous of working through the curriculum, and that many individual proprietors would be glad to give some additional pecuniary help to young men from their neighbourhood for the same purpose. Details of the scheme, which will come into practical operation next month, may be obtained by application to Mr. I. B. Balfour, keeper of the garden.

— STRAWBERRIES AND LIMESTONE SOIL FORMATION, CLONMEL.—I have been wondering why in some Strawberry experiments in my garden with numerous varieties some of them did no good whatever. At first I thought it might be position or relative richness of the soil, but after three years' trial I have come to the conclusion that soil formation plays a decided part in the success or failure of particular varieties. My soil is of limestone formation, partly made or carted in, and with a considerable share of limestone rubbish and sand mixed with the old original to our garden soil of ages. British Queen and Sir Joseph Paxton do no good whatever for me I am sorry to say. Dr. Hogg and Eleanor give famous crops of foliage—that is all. Vicomtesse Héricart de Thury and La Grosse Sucrée, poor results and little foliage. Of the newer introductions Noble is one of the first and heaviest croppers, and by no means deficient in quality, in a good sunny season. Scarlet Queen comes first of all my varieties for quality and earliness, but was rather small last season. Competitor is far and away the heaviest cropper, with it Auguste Nicaise (very liable to red spider) and Cardinal following close. I understand Mr. Laxton in his famous Strawberry nurseries at Bedford has somewhat similar results.—W. J. MURPHY.

— SENDING ROSES BY PARCEL POST.—I have just received a post-card from a friend at Bournemouth, about 150 miles away, to the following effect:—"Thanks for the lovely Roses. They are very much admired. Mr. O. thinks them splendid; they arrived so fresh, and looked as if they had just been gathered." Having received many similar testimonies from friends at long distances, perhaps a hint as to packing may be of use to some readers who may not have been so fortunate. In dry hot weather it is necessary to cut the blooms in the morning, with the dew on if possible, in order that they may retain their freshness and colour. They are then placed in water, with the stems several inches deep, removed to a cellar, and packed as soon as convenient. Small boxes of convenient sizes may be had from grocers or confectioners at a trifling cost, averaging 1d. each. I choose a box as near as I can guess suitable for the blooms at command—say, two or three dozen. The blooms preferred are those from buds commencing to open up to half expanded. These lie close, and may be disposed compactly without damage. The box is first rinsed with water, the wood absorbing a little without being made too wet for the post, and a lining of paper is used to save chafing of the petals against the rough wood inside. The stoutest and firmest varieties are chosen to lie against the paper. The blooms are laid carefully to fit firmly, but without crushing. They are laid end to end, with the stems in the middle of the box. When sufficiently filled a little finely cut young grass, which should not be

wet, is placed in hollow places among the blooms to prevent chafing, and to impart moisture in transit. A piece of paper is placed over the blooms, and on the top across the stems a roll of crumpled paper, or what is better in some cases, a quantity of Lettuce leaves. The box should be filled so that the lid requires a little pressure to hold all firmly to prevent any friction. I object to moss for packing on account of the scent.—J. HIAM, *Astwood Bank*.

— PRICES OF OUTDOOR TOMATOES.—"We are getting 4s., 3s., and 2s. respectively per 12 lbs. for best seconds and thirds of outdoor Tomatoes," said a grower who sends many tons into Covent Garden Market during the season. The figures are far from being high, but they seem to be fairly remunerative. Outdoor culture is not a costly process. The first thing is to have good early free-fruited strains. Of these Earliest of All and Magnum Bonum, so far as I have seen, seem to be the very best, and both set and fruit wonderfully outdoors. Some of the choicer or handsome fruited, whilst doing well under glass, are of little value outdoors; and the grower who puts out thousands of plants soon finds out which sort suits his purpose. Then early strong plants fully 10 inches high should be ready to go out early in June. These should have ample room, and each one a stout stake some 3 feet out of the ground. Plenty of hard pinching and a little tying constitute the chief requirements of Tomato plants.—D.

— HEDYCHIUM CORONARIUM.—The first of the genus introduced in 1791 from the East Indies, and designated the Indian Garland Flower, this Hedychium is worthy of culture by those possessing a good roomy intermediate house or stove. Our plants grown in the former house are just opening their charmingly scented snow white flowers, which show to great advantage, carried as they are on stems 4 feet high and clothed with pale green leaves, which show the white flowers to perfection. The individual flowers are very beautiful, and closely resemble many of the Orchids, in fact they are more pleasing than some of these. As regards their culture it is simple enough. When the flower spikes die down reduce the quantity of water, finally giving none at all. They may then be stored away during the winter in any out-of-way place not too cold. In February or March the rhizomes may be divided, using a good strong loamy soil, allowing plenty of room in the pots, as all the Hedychiums are strong rooters. Place the pots in a warm house, merely syringing well about them until growth commences, when the water may be increased, and as the strong, stout growths begin to push well up the application of weak supplies of weak liquid manure will be found of immense benefit. The plant rapidly increases, and it is for the cultivator to determine as to what sizes he will allow them to grow, and so use the roots to his own satisfaction. Insects do not trouble the Hedychiums very much; perhaps thrips may occasionally infest them, but they may soon be removed by sponging.—R. P. R.

— THE ROYAL BOTANIC GARDEN, CALCUTTA.—In the report of the Royal Botanic Garden, Calcutta, for the year 1891-92, it is shown that the year was one of great activity as regards outdoor operations. The abnormally dry season proved very trying to many exotics, and, though for a time all other work was suspended and the whole garden staff was employed only in watering plants, many casualties occurred, especially among the finer and rarer plants. The attention of the staff was as usual largely directed to the cultivation and distribution of plants of economic interest. The chief event of the year under this head was the introduction of the Aloe, which yields "sisal hemp" (*Agave rigida*, var. *sisalana*). The Director of the Royal Gardens, Kew, in June, 1891, kindly obtained a consignment of plants for the Calcutta Garden from Florida, and kept these at Kew till they were strong enough to stand the voyage to Calcutta. The boxes reached Calcutta on October 29th, 1891; unfortunately a considerable percentage of the plants died on the way out, and it was necessary to nurse the survivors carefully before they could be distributed. Over 19,000 specimens were contributed to the Herbarium during the year from various sources; while the distribution of authentically named specimens to other herbaria reached the high total of 10,505 sheets. The chief benefactor to the Calcutta Herbarium was again the Royal Herbarium, Kew, to the Director of which institution the Calcutta one "owes a debt that can never be repaid." Among other contributors was Baron von Mueller, who again sent a beautiful collection of Australian plants. The Herbarium was also greatly enriched by further accessions of Tibetan, Chinese, and Mexican specimens, and the Saharanpur Herbarium presented 954 plants from the north-west Himalaya. Dr. Prain visited the Andaman Islands, Mount Parashak, and the Khasia, and was thus enabled to add valuable collections. Much good work was also done by collectors employed by the Calcutta Garden.—("Nature.")

SUCCULENTS AT THE ABBEY PARK, LEICESTER.

SOME two years ago there appeared in the *Journal of Horticulture* a very good description of the Abbey Park. In main this holds good now, but there are many and great improvements on every side. The bedding is considerably altered, and that for the better. The annuals are in strong force and very fine. The carpet beds are fully up to date, while the subtropical garden has never before been anything like it is this year. The only regret is that something is not done in the way of providing a permanent house (as was spoken of by Mr. Owen Thomas at the last Show), so that these beautiful and interesting plants might be a "joy for ever," instead of, as is now the case, being packed away in the small houses with the bedding plants, and no one allowed to see them for

arrangement being avoided. This year the largest of the Agave species are planted in mounds on the lawn, and a more fitting place could not be found. As they stand some 7 feet high they would be far too large for bedding purposes.

It is quite impossible to number the occupants of the central bed, but it will be well under the mark to say that there are over 300 different varieties. The Agave tribe is well represented by some good specimens of *A. americana*, *A. variegata*, and *A. Celsiana*. Dotted about are many of the Aloes, of which *A. Noacki*, *A. Kellocki*, *A. linguifolia*, *A. ferox*, several really good plants of *A. Taylori*, *A. densa*, *A. densiflora*, and some beautiful little plants of *A. verrucosa* form a conspicuous part.

Opuntias are very numerous and in all shapes and sizes. *O. cylindricum* stands like a soldier on guard over a poor "old man," who is drooping his head rather near a Prickly Pear



FIG. 39.—BED OF SUCCULENTS AT THE ABBEY PARK, LEICESTER.

the greater portion of the year. There is one thing certain, that it will be totally impossible to winter some of the magnificent specimens of *Dracæna australis*, which play such a conspicuous part in the subtropical garden. Last year their pots were sunk in the floor, and even then their heads were pushing at the glass. There certainly should be no difficulty in procuring a house in which the summer Show could be held and these plants housed in winter, as the Committee have over £1000 in hand, which has been made at the gate on show days.

The accompanying engraving is a view of the succulent bed, which forms the centre of the subtropical garden. It is about 20 feet in diameter, and is composed of one of the finest collections of succulents in the kingdom. There are plants varying in height from half an inch to 5 feet or 6 feet, and from the tiny *Echeverias* to the stately Agaves. Stiff as the individual plants are, Mr. Burn has succeeded this year in putting them together in such a way that the stiffness is entirely done away with, all formality in

(*O. Rafinesqui*), which has many fruits: one bunch has grown on and on until some eight are hanging from one another. *Echeveria* is another genus which is in quantity; several *E. undulata* are flowering, as also *E. secunda glauca*, *E. Peacocki*, and agavoides. These deserve special mention, as do some very fine *E. metallica*.

As we near the border the smaller kinds are used, such as *Mesembryanthemum*, including the pretty and curious *M. tigrinum*. *Melonocacti* seem quite at home, and several have flowered during the summer. Some good tufts of *Crassula*, including *C. lycopodioides* and that strange "buttons-on-a-string" species, *C. perfoliata*. A number of *Rochea falcata* are distributed at intervals all round the margin. On the north side (*i.e.*, the back of the bed) there are several umbels of its gorgeous scarlet blooms, and occasionally we come across a fine specimen of creeping *Cereus*. The centre is beautifully carpeted with various small growing *Saxifrages*.

There are many kinds not named in the above list, but

sufficient has been said to show that this bed is well worthy of the reputation it has attained; and I will finish this little article by asking all visitors to the Abbey Park not to miss the subtropical garden, and above all the succulents.—W. BELL.

FUNCTIONS OF VINE LEAVES.

MR. DUNKIN argues well, and with great fairness. Evidently he is fully convinced of the soundness of his own theories, but he does not advance sufficient evidence in support of them to make me doubt the correctness of my own conclusions, however much they may be at variance with what experts have adduced. He takes it too much for granted that it is not possible to colour Grapes properly if the foliage beyond the bunches is not in a clean healthy state. Had he paid me a visit this season I could have shown him Madresfield Court as black as Sloes, and carrying good bloom, immediately over a hot flue, and red spider unavoidably in the ascendant. He would also have seen bunches with only a single primary leaf and two secondary ones that had larger berries than others where three, four, and five leaves had been left, the finish being about equal in each case. Who has not seen bunches left on a leading growth that had formed most disappointingly small berries, the finish also being nothing better than could be seen on short laterals? This may be an extreme case, but it is what first set me thinking. If growths 3 feet or 4 feet long thus robbed bunches instead of furnishing them with an extra good supply of elaborated sap, is it wide of the mark to conclude that it is possible to be too liberal in the matter of leaving primary leaves beyond the bunches? Those remarks on the functions of Vine leaves were penned long before they appeared in print. As far as the early and successional house is concerned my further experiments tend to corroborate my theories, and the late house still further strengthens them. The heaviest bunch of Gros Colman in the late vinery under my charge has no primary leaves beyond it, and only what secondary leaves have formed on the freely stopped sub-lateral growths. At present there is every prospect of this bunch colouring equally as well as the rest, but if it does not then I will readily admit I have made a mistake.

Mr. Dunkin writes concerning the advisability of allowing more primary leaves to form and sub-laterals to grow more unrestrictedly, much as though the practice was the making of some Vines and the salvation of the others. In describing what he saw a few years ago in a now famous vinery, he quite forgot to state how far apart the rods were trained, and I cannot help thinking he slightly over-estimated the weight of the crops produced. If the practice of leaving several leaves beyond the bunches, and of allowing the sub-laterals a free growth is to become general, then must those who adopt it be prepared to train their rods from 5 feet to 6 feet apart, and larger houses ought also to be the rule. Mr. Dunkin mentioned what he has seen practised with such good results, and is such a firm believer in the efficacy of the plan of allowing the Vines to grow far more freely than is usually done, that he will be surprised to learn the Vines in another famous vinery not unknown to him, and which have been for the past ten years or more treated exactly on the same lines he has described, have "gone wrong." They are not failures by any means, but no one could call them successes this season. As a matter of fact, this free growth of Vines may easily be overdone, and its value over-estimated. If regarded as a mere detail in an intelligent round of treatment it may answer well enough, but do not attach too much importance to it. In careless hands it may, perhaps, prove a "snare and a delusion." If it increases root-action it also necessitates more watering and more feeding, the greater expanse of foliage evaporating large quantities of moisture, while the borders soon become impoverished. Its adoption, therefore, means fewer Vines or rods, and fewer bunches, and greatly increases the labour and responsibility of the cultivator. I am treating on the subject now from a gardener's point of view, and not from that of a grower of prize bunches.

What I maintain is that Vines can be kept in admirable health and fully capable of producing heavy crops of superior produce when kept constantly stopped on the old lines, very little superfluous foliage being left. What with the foliage on the fruiting laterals and that on laterals between them, I hold that there is ample to meet all the requirements of the case. I have heard it repeatedly asserted that Vines are at their best when six or seven years old, their decadence soon after setting in. I can understand this being the case when the borders have been recklessly and early exhausted, principally or largely in the development of growth that has to be cut away, but it is not so where the treatment is more rational. The tenth crop of bunches on the Vines in our late house is much the best we have ever had, yet the stopping has been, according to Mr. Dunkin's views, too severe.

The colouring will be satisfactory enough, but something else besides good leaves is responsible for that.—W. IGGULDEN.

DISCUSSION ON APPLES.

APPLES IN THE NORTH.

THE behaviour of fruit trees this year has been decidedly erratic, and the Apple not the least so. It has been quite common to hear of gardens in the same locality with the widely different reports of "No Apples" and "An abundant crop of Apples." At the same time it is necessary to be guarded in receiving reports too literally, as so-called poor crops early in the season have swelled up into very good ones. In our own case the crop looked so very poor and unpromising that trees abundantly laden were only slightly thinned in order that the most might be made of what we had. But thinly set trees have done so well that the crop on the whole is a fairly good one, and freely set trees might just as well have been freely thinned.

The teaching of the present year once again emphasises the fact that young trees in robust health are the ones to depend upon for a certain fruit supply, and old trees are as a rule unworthy of dependance in any but a good fruit year. That, of course, is not the teaching we were brought up to, but it certainly is what the trees themselves proclaim. Again, it becomes palpably evident that the few select sorts are those to depend upon. If they do not bear an overflowing crop they set a sufficient number of fruits, and that in itself is a great deal when the chance of any crop whatever is a matter of uncertainty. Then I think it is abundantly evident that each district must choose its own sorts, and from these each garden. The peculiarities of soil have a striking influence. There are Apples which succeed only on heavy soils, and others which do best on light soils; while there are also soils of a happy medium character which produce any kind of Apple to perfection. No doubt also the individual peculiarities of some really good Apples require to be studied. Keswick Codlin is an example of a sort which may be spur-pruned year after year, and continue to thrive and be fruitful under the treatment. Irish Peach, on the other hand, prefers to be left alone, and under such conditions produces twins and triplets of beautiful fruit on the extreme points of its wilowy shoots. Others, again, of which Peasgood's Nonesuch may be mentioned as typical, are not averse to very drastic and recurrent root-prunings, while occasionally we find a sort assume a fruitful habit under a system of bodily removal.

As a rule, it does not pay to cultivate varieties requiring special treatment to induce fruitfulness, and it is wise to select only those which give the best returns with the least trouble. Generally these are also the best sorts. However, all young trees are improved by careful root-pruning as well as by removal. There is no good reason why either process should check the healthy growth of the trees, for if properly gone about it will not do so; but it will induce a more fruitful habit, and when once a young tree gets into a free-bearing habit, so long as overcropping is avoided, the habit will be perpetuated. A good time to prune the roots with good results is at the present time. If they are bare and long they are transformed into short, fibrous-bearing roots, and if they are already of a fibrous nature that condition is accentuated. An abundant crop of young rootlets is made before growth finally ceases—that is to say, ceases to all outward appearance, and the benefit to the tree will be apparent in the strong healthy blossom which results. The addition of fresh material for the young roots to lay hold of is of much value. Any fresh material is good, and the degree of goodness must of course depend on the ability of the grower to secure the best he can; but because one cannot secure loam, that is no reason why other soil should not be used, such, for instance, as the best contained in the general "old compost" dépôt, which is often as valuable as loam.

The harvesting of the crop is a detail which will engage most attention for some time to come. Late varieties ought always to be allowed to hang as long as possible. Some of ours are left till November, but we are not often troubled with frosts before the middle of that month, a climatic condition which may not occur in every district. Where birds are numerous, and much given to fruit-eating, it sometimes becomes a necessity to gather the earlier ripening sorts before they are quite ready in order to save the crop. In some seasons we have to do this; but the better plan, where it can be carried out, is to go over the trees at intervals and gather the larger and better ripened fruits first, allowing the others a longer period on the trees to swell and finish. This system is not only productive of a larger size of fruit, but it is at the same time a means of relieving the trees, and also extends the season of any particular sort harvested in this manner.

It is almost too early to decide as to what to plant, but it may be of interest to add a note as to the varieties found most worthy of cultivating. I may begin with Early Julyan, which combines good cropping and cooking qualities with earliness. I like Keswick Codlin as a really reliable sort, one which in the worst of seasons bears a crop of fruit of good size and excellent quality, while the tree is absolutely healthy, and on our soil one of the few varieties which never show a trace of canker. Last spring I selected this for a pergola as being the best for the purpose. In a select collection I would pass over the beautiful Duchess of Oldenburg, as it keeps very badly, often in fact decaying during wet weather while still hanging on the tree. I would choose in preference to Lord Suffield for a light soil, on which it does not succeed, the newer Lord Grosvenor. This is not quite free from canker, but after testing it for some years I find it stands out so prominently from all others as a robust sort, combining extraordinary

cropping qualities with size and good flavour, that I do not think any other Codlin approaches it. Ecklinville and Warner's King are two indispensable varieties for all qualities of soil, Stirling Castle and Cellini for heavy soils only, and the same remark applies to Pott's Seedling. The Queen is a beautiful variety, and does well on a light soil. Extra good also is Gascoigne's Scarlet, a noble looking fruit, which keeps well but must hang a long time on the tree. Of later varieties, those which always do well here are New Hawthornden, Frogmore Prolific, Northern Greening, New Northern Greening, Mère de Ménage, and Alfriston. With the exception of the Greenings, these are all of large size. If a small cooking Apple is required King of the Pippins ought to be selected. Blenheim Orange and Dumelow's Seedling do not succeed, but on a heavy soil they are standard sorts.

Dessert varieties ought to include Margaret, for eating off the tree, Irish Peach, Mr. Gladstone, Kerry Pippin, Ribston Pippin in quantity, Cox's Orange, and any soft sorts that on trial do well. As a rule late hard Apples do not come to much in the north except when trained to a wall.

As to planting the trees, do not order them until they are wanted, and when they come to hand plant them at once. If any unforeseen circumstance hinders planting keep the roots moist with damp litter until wanted. Nothing harms trees more than to keep shifting them about before planting. I got a good number of young trees last April, which on arrival had their roots dipped in a solution of soil and water, were then planted at once with some good compost about the roots, watered twice during dry weather, and all have done well. If they had been lifted sooner and laid in by the heels until wanted, the result would have been very different.—R. P. BROTHERSTON.

EMPEROR ALEXANDER.

THIS is a most desirable culinary Apple, being a good grower and a free cropper. The fruit is very large and of handsome outline, with a large eye deeply sunk in an evenly formed cavity and streaked with red on the side next the sun, the quality being such as to render it eligible for table use. Young espalier-trained trees are doing well here, and established trees, similarly trained, annually bear fine crops of extra fine fruit in the Palace Gardens, Salisbury, in which gardens Mr. Fred. Smith, the Lord Bishop of the Diocese's excellent gardener, grows several approved varieties of the Apple to perfection.—H. W. W.

STIRLING CASTLE.

I HAVE to-day, September 22nd, gathered some fine fruits of this handsome free-bearing Apple, the largest of which turned the scale at 12 ozs. The tree is a good grower as well as a free cropper, characteristics not to be lost sight of in fruit trees of every description.—H. W. W.

ST. EDMUND'S PIPPIN.

IN looking over Messrs. Veitch's Southfields nurseries the other day I came across this Apple for the first time, and think it should be more generally known. Young trees, two years old, are covered with good fruit above the medium size, and the flavour is much better than that of any Apple I know at this season. It was raised by Mr R. Harvey, Bury St. Edmunds, and received a first-class certificate from the Royal Horticultural Society on October 6th, 1875. It was described as richly flavoured, medium sized, resembling the Golden Russet, and ripe now. Growers who want a highly flavoured, free-bearing Apple should look out for this. Of course it must be on the Paradise stock.—H. HUNTLEY.

KESWICK CODLIN.

I CAN certainly corroborate Sir John Sinclair's statement respecting this good old Apple—viz., "that it flourishes best on strong soil." At least it is highly satisfactory here, and ours is a very strong soil, resting on a thick stratum of close, almost impervious, clay. We have two trees of this variety at least fifty years old, which to my knowledge have only failed twice in eleven years to carry full crops of large clean fruit. During this time the trees have never had the least attention either with regard to pruning or manure. When renovating an old orchard here, in the autumn of 1890, we planted a maiden standard of Keswick Codlin on one of the stations, which had been previously well prepared. In the following spring all the shoots were cut back to well situated buds at the base, and by the following autumn the tree had made ten shoots from 30 to 36 inches long. This season's growth has been equally free, and it has all the appearance of carrying fruit next year. Possibly "E. M." could trace the failure of this variety with him to a chemical rather than a mechanical condition of his soil.

BESS POOL.

The advice so freely given a few years ago respecting the limitation of varieties should be carefully practised, for experience proves that free, regular-bearing varieties are sometimes rendered barren through uncontrollable atmospheric conditions, and that is the case in many localities this season. Bess Pool has the best of qualities as an Apple, but owing to its irregularity in bearing it should not be planted largely. We have, however, often found it exceedingly useful in seasons of scarcity like the present, owing to the fact that it blooms at least a fortnight later than most varieties, and thus escapes the late spring frost. It is recorded in Dr. Hogg's "Fruit Manual" that "one season, when Apples were scarce, the fruit of seven trees sold at 7s. 6d. a peck, and made £70, or an average of £10 a tree." It would thus seem that this variety is often found bearing in scarce seasons. It is a strong grower, and does not bear in a young state, even as cordons on the Paradise stock.

COX'S ORANGE PIPPIN.

We have a dozen bushes of this variety on the Paradise which have not failed to bear heavy crops every season during the last ten years, and this season is no exception, for the trees are loaded. They are just as free as upright cordons on the same stock planted by the sides of walks. Being so free the trees have to be deluged with manure water from the farm at all seasons or their fruit would not swell to half the proper size. This is a first-rate Apple, both for cooking and dessert; it keeps plump and good to the end of May. Cox's Orange Pippin is the very best variety to grow as bushes and cordons in small gardens, and for cottagers who may only have room for one tree it would be difficult to name a more reliable sort. It is a pity every cottager in the kingdom does not know of its great merits. They should be careful to have plants worked on the Paradise or they may be disappointed.

ANNIE ELIZABETH.

This is a comparatively new variety, sent out, I believe, by Messrs. Harrison & Sons, Leicester. We planted a standard in the orchard four years ago, and have found it a very free bearer except this season. The fruits are very handsome, being of a very bright crimson on the side next the sun, which secures for it a full share of admiration. The fruit is about the size of Stirling Castle, and much resembles that variety in general outline. It is a first-rate cooking Apple, but is rather too sharp and brisk for most people to be used for dessert, unless it is to make an ornamental dish.

LORD GROSVENOR.

This fine cooking Apple is well adapted for growing as upright cordons by the sides of walks when grafted on the Paradise. Grown thus they bear regularly right to the ground, and the fruit swells to a very large size. The fruit is more sheltered from high winds than when grown as bushes or standards—a circumstance of great advantage with all large fruiting kinds.—J. H. W., *Leicester*.

KING HARRY.

So far I have only seen this new Apple in fruit at Maiden Erlegh, where Mr. Turton has it fruiting well, and so pleased is he with it as a midseason dessert variety that he classes it with the very best sorts. The fruits bear some resemblance to those of Cockle's Pippin, but are much larger, brighter, and handsomer; the eye is more open, and the base of the fruit rather broader and flatter. The skin when ripe is of a bright yellow, orange next the sun, and is dotted with russet spots something after the style of Wyken Pippin. The tree is a very good grower, and crops well. The fruit is in season in November. It is also of crisp white flesh, and good flavour. It will not be a matter for surprise if this variety should shortly make a good reputation as a dessert Apple. Mr. Turton will probably show a sample of the fruit at Earl's Court on October 5th.—A. D.

LADY SUDELEY.

REFERRING to my remarks on page 238 as to the Irish Peach, I have to state that Messrs. Geo. Bunyard & Co. of Maidstone, the famous Kent growers, very kindly sent me half a dozen fruits of their new Apple Lady Sudeley, and I must, in justice to them, say that the fruits were lovely specimens, perfect in shape and "finish," and have been admired by everyone who has seen them. It is a remarkably handsome Apple with a powerful aroma, and although in the specimens sent me not quite so juicy and crisp as Irish Peach, they may possibly have been a little too ripe and past their best, which would account for their being somewhat soft, a fault nearly all early Apples have if not plucked and eaten almost direct off the tree. In my opinion Lady Sudeley is an Apple that has "come to stay;" its beauty will make it a favourite on the exhibition table, whilst its soft flesh and strong aroma commend it to all who do not like an Apple which requires much mastication, and leaves, as many Apples do, a lot of indigestible "wood" behind.—F. BOYES, *Beverley*.

IRISH PEACH.

I CONSIDER this the best of the early dessert varieties in flavour, and I see it is regarded in the same light by others. With us it is a sure and heavy cropper, but I am told it is not a good market Apple. The colour is not what could be wished for that purpose; this shows the fallacy of public taste, in some things at any rate. It requires care in pruning, as it bears mainly on the points of the shoots, and to obtain a full crop every year the spurring system should not be always or wholly adopted. I was not a little surprised this year to find a full crop of fruit on some young trees planted in the autumn of 1890, and which were subjected to 7° of frost one night while the trees were fully in bloom, still no harm appeared to have befallen the blossom, although the pistil was black right to its base.—E. M.

NOTES FROM BEVERLEY.

KESWICK CODLIN is a very old sort much grown about here, but although it is a good bearer and an excellent cooking Apple the tree has a somewhat sickly look and carries a quantity of small spotted fruits. In a few instances it is healthy and bears fair sized fruits. It is, however, a variety which has been superseded by better kinds. Pott's Seedling is an excellent early cooking Apple, clean, healthy, and the fruit of good size and shape. It has fine foliage somewhat like Lord Grosvenor, and one of its best properties is that it cannot be blown off. I have known a tree perfectly laden with fruit withstand a gale of wind without losing a single Apple, whilst the neighbouring tree, Cox's Orange Pippin, has been nearly stripped of its unripe fruit. When eaten from the tree Pott's is very juicy and refreshing, although a kitchen Apple. Duchess of Oldenburg is often classed as a dessert

kind. It is a very prettily striped early Apple and a capital bearer, but as grown here not good enough for dessert, and for cooking has to compete with others of the same season and superior to it in size. Ecklinville Seedling is one of the most certain croppers we have, and on the Paradise stock produces very fine fruit. Lanc's Prince Albert, another excellent cropper, the fruit clean and keeping a long time, is one of the very best. Stirling Castle is another of great merit. It is an abundant cropper, and the fruit is smooth, clean, and good. The last three and Potts's Seedling are four of the best and most reliable cooking sorts grown for garden culture; Lord Grosvenor and Lord Derby may be added to make up the half dozen.—F. BOYES.



NOTES ON THE EARLY VARIETIES.

(Concluded from page 265.)

I WILL now leave the historical and descriptive side of my subject and turn to practical matters. First comes propagation. In this as in other phases of culture the same method is not practised by all cultivators. In looking through some back volumes of the *Journal of Horticulture* the other day I came across a small paragraph on the subject, in which a mode of propagation is recommended which, whatever may be its merits otherwise, has certainly to my fancy reached the acme of simplicity. In the issue for March 29th, 1888, page 265, Mr. J. Muir, Margam Park, writes:—"In my opinion these are the most useful plants in the flower garden. They are hardy and so easily managed that any novice may succeed with them. They flower freely in all situations. They grow well in towns under the direct influence of smoke, exposed to the sea breezes, under the shade of trees, and in positions where flowers do not generally succeed. These Chrysanthemums prove gay and attractive under all circumstances. They begin flowering about the end of June and continue to do so until frost destroys them. When we had our first plants we propagated them in heat in spring, but when once the plants were established in the open we ceased to propagate indoors, and now allow the plants and roots to remain in the ground all the winter, lifting them in April, dividing them into small pieces with a root attached to each, and replanting. This is our practice when we wish to increase them. If not they are allowed to remain in the same positions."

There is no doubt the above simple method answers very well in the locality where Mr. Muir is happily placed, the fertile Vale of Glamorgan, where the cold winds and frosts of winter are tempered by the warm breezes from the Bristol Channel. He may undoubtedly safely leave out his whole stock in the open ground all the winter, but in Leicestershire, had we tried the same course during either of the last two winters, we should certainly have found it necessary to start with an entirely new stock in the spring. As a general rule to follow none is better than that recommended by a large cultivator as follows:—"They are best taken as cuttings from plants that have been wintered in cold frames early in February. After they have been potted off and have commenced to grow they should be stopped. After this they will branch freely, and it is best not to stop them any further. They should be planted out in April."

If large bushy plants are desired cuttings should be taken in December of the Pompon varieties, and in November of Madame Desgranges and its sports. These are potted singly in large 60's in December or January, and stopped, as above stated, a week afterwards. About the end of February or early in March they will require a shift into 48's, and a second pinching or stopping should be given a week afterwards, planting them out in April. Plants so treated will be strong and well established at the time of planting, growing with vigour as soon as planted, and flowering well at their proper season. Growers for market, however, usually prefer the shortest course, and thus the plan of propagating in February commends itself to them, not only on account of the much shorter time and less labour taken up, but also on account of the smaller amount of space occupied, this being very valuable in houses and frames during February. When propagated in February one shift only into 60's is required, and from these they are planted out. After planting see that the hoe is frequently used amongst the plants, not only to destroy weeds, but to promote rapid growth.

If the plants are to be lifted especially for potting care must be observed not to allow them to become too far advanced ere it is done. The best time, the plants suffering least, and recovering most quickly from the effects of the operation, is as soon as the buds are formed, and are as large as peas. Lift them carefully, pot them quickly in light rich soil, water them, and place them for a few days in moist shady quarters, such as on the floor of a greenhouse immediately under the side stages, so that they are shaded from sunshine. Syringe them twice daily—morning and evening—thus keeping them moist, cool, and shaded. These conditions should suffice to prevent them flagging, and in little more than a week they will bear full exposure to light and air. When the plants are grown for the production of flowers for cutting only it is better not to pot them, but to lift them with as large balls as can be

secured, and pack them moderately closely together on the floor of a cold frame, or on the stages of a greenhouse, covering the roots with fresh soil as the work proceeds. I have used for this purpose a house where early Cucumbers have been grown, simply pulling up the Cucumber plants and using the soil in which they had been growing for covering the Chrysanthemum roots. Excellent flowers may also be obtained by leaving the plants out in the open garden, and placing frame lights over them to protect the flowers from frost and rain.

In average seasons large quantities of most useful flowers may be cut from the plants in the open garden without any protection whatever, and during the time I was at Oakbrook I made a point each season of having a large bed especially for this purpose. A few words will suffice to explain the most profitable method of doing it. A considerable portion of the plants which have been flowered in pots should be cut down after their flowering season is over and placed in cold frames—firstly, for supplying what cuttings are required, as before mentioned; and secondly, for planting out to furnish flowers for cutting from the open ground. They should be kept in the cold frames until early in March, when they may be placed outside under a south wall, turning them out of the pots and planting them on good ground 2 feet apart early in April. They should not be stopped, but be allowed to produce all their growths freely and unchecked from the first. They will thus make large dense bushes, coming into flower earlier than the younger plants, and in a favourable season producing an astonishing quantity of useful flowers throughout September and October. After the flowers are gone they should be destroyed, and a fresh lot of one-year-old stools be planted annually in April.

The small-flowered or Pompon varieties of summer-flowering Chrysanthemum do not, as a rule, succeed well if cultivated in pots throughout the season. I have in past years tried them fairly and well on more than one occasion, but have invariably found that those cultivated in pots were much inferior to those which had been planted out. The larger flowering varieties, however, such as Madame Desgranges and its family, are frequently grown in pots throughout, and under good cultivation they will give better results in this manner than if planted out. For this purpose the cuttings should be taken early in November, and the plants be grown on the shelf of a cool house through the winter, shifting them as required, and stopping them twice, as mentioned before. That useful variety, Grace Attick, is also, I find, best kept in pots throughout. It grows freely and vigorously when planted out, but bears lifting very badly, the result, as a rule, being that most of the flower buds perish or fail to open satisfactorily.

I will conclude by giving short lists of varieties most suited for the various purposes for which these early flowering Chrysanthemums are cultivated. The following are suitable for lifting and potting, either for market purposes or home decoration:—Whites: Mdme. Desgranges, Mdle. Jolivart, P. Radaelli, Mrs. Cullingford, and Nanum. Yellows: Flora, Mrs. Hawkins, G. Wermig, Mrs. Burrell, Golden Shah, and A. Crepey. Purple, Red, and Pink: Salter's Early Blush, Blushing Bride, Alice Butcher, Miss Davis, Fred Pélé, and Lyon.

The following are suitable for producing cut flowers when lifted and packed together in frames or houses but not potted:—Whites: Mdme. Desgranges, Mrs. Cullingford, Mdle. Jolivart, Sœur Melanie, and La Vierge. Yellows: Mrs. Hawkins, G. Wermig, Flora, Fiberta, and Précocité. Purple, Red, and Pink: Alice Butcher, Miss Davis, Mr. W. Piercy, Lyon, Mdme. Foucher de Cariel, Mdm. Piccol, and Roi des Précoces. The last-named, however, can scarcely be termed summer flowering.

The following are good for outdoor decoration and for cut flowers as grown in the open air:—Whites: Nanum, Mdme. Desgranges, Mdle. Jolivart, and Mrs. Cullingford. Yellows: All the Desgranges sports, Fiberta, Flora, Précocité, and Golden Shah. Purples, Reds, and Pink: Alice Butcher, Miss Davis, Fred Pélé, Lyon, Mdme. Piccol and its sport, Mr. W. Piercy.

The following are good for pot cultivation throughout:—All the Desgranges family, Mdme. Foucher de Cariel, Grace Attick, and Mrs. J. R. Pitcher.—W. K. WOODCOCK.

FRUITS AND FLOWERS AT THE WORLD'S FAIR.

THE horticultural display at the Chicago World's Fair will, we are told, be bewildering in extent and marvellous in beauty. The exhibit will possess great scientific and educational value, but to the ordinary visitor its ornamental features will be the most striking. Indeed, it will play an important part in the adornment of the great Exhibition. While in almost every part of the grounds may be seen gratifying evidences of the very efficient work of the Horticultural Department, the central point of interest will naturally be in the exhibit in the horticultural building. This structure is 998 feet long and has an extreme width of 250 feet. Its plan is a central pavilion with two end pavilions, each connected with it by front and rear curtains, forming two interior courts, each 88 by 270 feet. Surmounting the central pavilion is a beautifully proportioned dome, 187 feet in diameter and 113 feet high.

VINES AND WINES.

In the south pavilion of the building will be installed the viticultural exhibit, embracing all varieties of wine and everything pertaining to its manufacture. An idea of how complete this part of the exhibit will be can be gained from the fact that applications for space have already been received from thirty-three foreign countries. From abroad the

exhibits of France, Germany, Spain, and Italy will be especially notable. A fine exhibit of Chilean wines and raisins, famed for their superior quality, will be made. California will make a splendid display, all of the great firms being exhibitors, and having applied for much more space than can possibly be allowed them. If permission, which has been asked, be given, Senator Stanford will exhibit a wine fountain. This, as planned, will throw, for two hours each morning and afternoon, graceful streams of wine to the height of 22 feet.

FRUIT.

In the rear courts of the building will be shown the fruit exhibit, which will include all varieties grown in any part of the world. As far as it is possible to do so, probably in a great majority of cases, fine specimens of the natural fruit will be shown, otherwise wax models, so perfect in appearance as to be indistinguishable from the real fruit, will be substituted. For this exhibit about 44,000 square feet, or more than an entire acre of space, is reserved. A very complete and splendid exhibit of Citrons and other fruits will be sent from California, Florida, Mexico, and South American countries. By means of refrigerators ripe fruit can be sent long distances without injury, and after reaching the Fair cold storage facilities will be available to keep it in perfect condition.

SHRUBS.

The exhibit in the important line of floriculture will be exceptionally extensive, and the preparation of it is far advanced. Unless this were the case the exhibit could not well be a success, for time is required for plants to overcome the check received in being transplanted. More than 500,000 transplanted shrubs and plants, of many species, are now growing in the grounds, and the number is rapidly increasing. The department sent out circulars to prominent horticulturists and horticultural societies in all parts of the world, requesting donations of plants, and agreeing to permit the name and address of the donors to appear in connection with such specimens as they might send. The result is that thousands of plants—excellent specimens, too—have been forwarded. Among them are more than 50,000 rare Rose plants, which have been sent by firms all the way from California to Hungary.

ORCHIDS.

The floricultural exhibit will not be concentrated in one place. In the front of the building will appear the greenhouse and hothouse plants—a very large variety, and many rare and beautiful specimens. There, too, will be the finest display of Orchids ever seen in America, if not in the world. One firm alone will spend 40,000 dollars on its Orchid exhibit. At the opening of the Fair, Chief Samuels says, there will be a display of 2000 different varieties of Orchids, embracing fully 15,000 specimens. Beneath the great dome will be the largest tropical plants obtainable, including Japanese and Chinese Bamboos 75 to 80 feet high, Palms 30 to 40 feet high, and Tree Ferns 15 feet or more in height. There will also be a miniature mountain covered with tropical plants, and in a cave within will be tried the experiments of growing plants by electric light and of growing them by the aid of electric currents, passed through the soil, both of which, it is claimed, have been accomplished with remarkable results.

ORANGE GROVES.

The two courts of the horticultural building will be filled with Orange groves from California and Florida respectively. In each there will be not less than 160 trees, each bearing about 200 bright, ripe Oranges. Thus an interesting comparison may be made between the Oranges of the two States as to size and flavour. The courts will also contain growing specimens of Lemons, Limes, and Bananas. California would like to make a much larger display than will be possible, and applied for about fifty times as much space as could be assigned. It will occupy an acre on Midway Plaisance with a Citrus exhibit. On the Plaisance, too, five acres will be devoted to a nursery exhibit, and Wisconsin will show there a Cranberry marsh. Six acres in front of the horticultural building will be devoted to the floricultural exhibit, as will also space about many of the larger buildings.

SIXTEEN ACRES OF FLOWERS.

The "wooded island," or, as more properly named perhaps, the flowery island, will be one of the most beautiful and attractive spots at the Exhibition. It embraces between 15 and 16 acres, and has been turned over almost entirely to the horticultural department for its exhibits. There, literally speaking, will be acres and acres of flowers of brightest and most varied hues and pleasing perfume. Little groves of trees, clumps of shrubbery, and sinuous walks will relieve the gorgeous monotony of this floral display. On the north end of the island Japan will build its strange antique temple, and surround it with the choicest plants and flowers of the island realm of the Mikado. At various turns of the winding walks which thread this delightful domain of flowers the visitor will encounter artistic little structures of the summer-house description, within which one may seat himself, and enjoy rest and beauty and perfume. Many of these retreats—sixteen or eighteen in number—will have thatched roofs, and be covered with growing Vines, and otherwise ornamented—in keeping with their beautiful surroundings.

In the north pavilion of the horticultural building will be a very extensive display of vegetables, canned goods, horticultural appliances, &c. In the second story of each pavilion will be a restaurant capable of seating about 200, and profusely adorned with Ferns, flowers, and exotic plants. Outside will be a number of greenhouses, where visitors may see an exceptionally complete collection of tropical vegetation. There will also be large auxiliary greenhouses, not open to the general

public, where plants will be brought to perfect exhibition condition, and where plants will be cared for after their beauty has passed.

INSECTS.

It may be rightly inferred that the horticultural exhibit at the Exhibition will be the most complete and extensive ever made or attempted. It is certain to attract a great deal of attention and prove to be of great scientific and educational interest. It will have important features not specified above, as, for example, a very complete collection of insects, both the injurious and the beneficial ones, whose operations affect the fruits and other products of the horticulturist. It is the intention to have in one place an exhibit of all of the species of plants mentioned in the Bible, and in others collections of almost equal historical interest.

Both Chief Samuels, who has general charge of the Horticultural Department, and Chief Thorpe, who looks after the floricultural division of the exhibit, have proved themselves to be the right men for their respective duties, and it is already assured that the display which, with the active and generous aid of horticulturists the world over, they will furnish will be long and pleasantly remembered by everyone who visits the World's Fair.

AOTUS VILLOSA.

OPINIONS appear to differ as to the likelihood of a revival of the Cape and New Holland plants, which were once so highly esteemed. The popularity of Orchids will in all probability ever be a powerful



FIG. 40.—AOTUS VILLOSA.

impediment to such a consummation, beautiful and useful as many of the plants admittedly are, for in many places too much space is given to the Orchids to allow of room for anything like a representative collection of hard-wooded plants. Messrs. Low & Co. exhibited a number at one of the Royal Horticultural Society's spring meetings, and many of the plants shown were greatly admired. Wherever a collection is formed *Aotus villosa*, which fig. 40 represents, should be included; indeed, all the members of the genus are worthy of cultivation. *A. villosa* is an attractive, compact, much-branched shrub. The flowers are bright canary yellow, the standard streaked with crimson lines. It blooms in May and June. *A. gracillima* is a slender, graceful species with bright yellow flowers, which are produced in such profusion as to entirely hide the leaves, leaving the slender stems like long racemes of flowers. Both plants invariably delight those who see them in good condition. They succeed well in peat and loam in equal parts with a good portion of sand added.

LIVERPOOL NOTES.

THINGWALL HALL.

WHILST paying a visit to this beautiful country house recently I was agreeably surprised to find such a magnificent collection of herbaceous and rockwork plants, which fill two borders, each 70 yards long. Everything that is good and worth growing finds a home, and in Mr. Foster, the head gardener, they have one who not only thoroughly understands their wants, but is able to speak of them in a manner that all lovers of those beautiful flowers would delight in. Though having been tossed about by the storms of the past few weeks, there was much to interest one. Charming varieties of Veronicas, some with delicate spikes and

dwarf habit, others with bolder habit and more pronounced colouring; Anemones in variety, lighting up the whole length of the border; Galtonia (Hyacinthus) candicans with its tall spikes of white flowers; Statice latifolia and Gmelini, always interesting; the Solidagos with their yellow spikes, fit companions for the blue Veronicas; Tradescantias, Hypericums, Phloxes, the lovely little Polygala chamaebuxus, with its quaint but delightful fragrance; Colchicum autumnale in clumps, masses of flower; Sedums of almost every variety, and many more plants were in full beauty. It is Mr. Foster's intention to thoroughly overhaul the borders this season and re-arrange them. It will be time well spent both as regards the benefit the plants will derive and as respects keeping them correctly named. With the mention of three charming beds I must leave the remainder of the many good things I saw at Thingwall for another time. As we walked round the pleasure grounds a bed filled with Rosa rugosa, having great bunches of beautiful berries and many flowers, standing alone, was most attractive. Another bed in a nook surrounded by shrubs was filled with Tritoma Uvaria, and a little farther on in a similar position was a third with Anemone japonica alba. None of these is difficult to grow, and they appeared doubly welcome, isolated as they were from all other plants.

ROBY MOUNT, ROBY.

The most successful Blackberry culture that I have seen in this neighbourhood is to be met with here. A wall adjoining the embankment of the L. & N.W. Railway, and too low for cultivating Apples, Pears, Cherries, or fruits of that description, had some two years ago a plant of the hedgerow Blackberry and one of the Parsley-leaved planted, so as to make a covering. Just the ordinary soil was used. Since then they have grown with amazing rapidity, and now cover a great many yards of the wall. They have been picked over five times up to the present, and the crop is enormous, hanging in massive bunches all over the plants. The fruit is of the finest description, and likely to keep on ripening until the frosts cut it short. The value of a crop like this, especially at this season, when Raspberries and other fruits are over, is very great. As cultivated at Roby the common variety is both larger in the berry and of much better flavour than the Parsley-leaved. It was a happy thought of Mr. Eaton to plant the Blackberries, and one which must give the greatest satisfaction to his employer, John Parrington, Esq.

Who would be without Carnations when they can be had in full flower in five months from the time of sowing the seed? This was my thought when Mr. Eaton pointed out to me a sturdy collection of plants of the dwarf Marguerites full of flowers and buds, some of which he picked for me, the colours comprising white, salmon, rose, maroon, pink, and terra cotta. They are prettily fringed and deliciously scented. The seed was sown about the middle of March, and placed in heat. When large enough the seedlings were pricked off into boxes filled with rich soil. The middle of May saw them placed a foot apart in a south border, and in August they were in bloom. For gardeners, nurserymen, or cottagers the Marguerite Carnations will prove of inestimable value.

CLEVELEY, ALLERTON.

If things go on in the future as they are at present we shall soon see Cleveley famed for its Lapagerias, which are just now very beautiful. Of the three original plants alba and rosea superba occupy the west side of the roof of a house for a length of 25 feet, whilst the variety rosea, which is very much inferior to the other, is planted in the same border, and covers the gable end of the house for a space of 20 feet. To stand at one end and view the whole, intermingled as they are, is to receive a most refreshing impression. The border in which they are planted is underneath the side stage of the house, the soil being composed of peat three parts, charcoal, crocks, and sand. As the growths appear they are protected from the attacks of slugs by having Cucumber glasses placed over them, which are retained until the young shoots possess a certain amount of solidity. In the long corridor, which is just now gay with Bougainvilleas, Plumbagos, Tropæolums, and Roses on the back wall, and running up to the roof so that the sprays hang down gracefully, and the narrow side stage filled with the best varieties of Tuberos Begonias, is another newly planted border of Lapagerias, many growths being as thick as a good sized cane. The cultivation of Blackberries is being taken in hand on a large scale. An iron arch many yards long has been fitted up with the Parsley-leaved and Wilson, jun., varieties planted on each side. It is filling up rapidly, and a very fair crop of fruit is ripe and ripening on the former, but Mr. Cromwell fears the latter variety will be too late for this district; perhaps in a good season it may do better.

HUYTON AND ROBY—WITH WHISTON—HORTICULTURAL SOCIETY.

At a special meeting of the above Society, held a short time ago, the question of appointing two Judges to judge the cottage gardens, came before the meeting, the result being that Mr. R. Pinnington, gardener to Mrs. Banner, Blacklow House, Roby, and Mr. T. Eaton, gardener to John Parrington, Esq., Roby Mount, Roby, were deputed to undertake the task, and report to the Committee their decision. At a meeting held last Thursday, presided over by G. G. Musson, Esq., the report was presented, and read by the Chairman. Mr. J. Read, Kennel Cottages, Whiston, was unanimously awarded first honours for a well kept garden throughout, Mr. Samuel Davies, the same address, being a very good second, and Mrs. Helsby, Roby, third. There were four others recommended for their clean and neat appearance, and as an encouragement the Judges recommended that small sums should be awarded to them, a suggestion which the Committee readily acted upon. Subscrip-

tions are coming in very freely, and everything points to a most successful Exhibition of Chrysanthemums, fruit, and flowers in the Huyton Park Hall on Saturday, November 12th. The Secretary, Mr. J. Taaffe, is doing very good work.—R. P. R.

EPIPHYLLUMS.

EPIPHYLLUMS are charming and exceedingly useful plants, adapted for various decorative purposes and positions under glass. They do not grow very fast, and are in consequence very serviceable for decorating either large or small plant houses. For growing in pots the general system adopted for Epiphyllums is to graft them on stocks, Pereskia Bleo and P. aculeata being the best and most generally used. Cuttings of these strike readily in heat; they should be inserted in very sandy soil at any season, and should afterwards be potted and grown until they have reached the required height. Good sandy loam to which a little brick rubbish has been added will form a very suitable compost for them. Grafting is easily performed, as it merely consists in obtaining a small branch of Epiphyllum just as the growth commences in the spring, afterwards opening the stock at the top or at any part of the side that is sufficiently hard, inserting the branch, and passing one of the sharp spines from the Pereskia right through to hold all firmly. Young plants may also be readily obtained by taking short cuttings, inserting them in small pots, and placing them in a propagating frame; but this method is not much practised except for use in baskets or any position where they are intended to hang down, the branches being unable to support themselves in an upright position when growing, owing to the dense trailing or pendent habit.

It is for decorating the roofs or pillars of houses having an intermediate temperature that I more especially wish to draw attention to the Epiphyllums, as there is nothing more effective during the flowering season. Pereskia Bleo forms the most suitable stock for this method of cultivation, as it is a much stronger grower than P. aculeata. Cuttings should be inserted as previously advised, and when rooted should be potted till they have reached the required height, when they should have their leader removed and the grafts inserted as before mentioned. When used as a decorative plant for pillars it is advisable to plant two stocks at each pillar and train them round it in an opposite direction to each other, as by so doing a much quicker and better effect can be procured than by only planting one, in consequence of the Epiphyllum being, as I said before, of such a slow growing nature. When grown on a roof a charming display may be produced by associating it with the Stephanotis. The best way to accomplish this is to train it at intervals in an upright position across the Stephanotis, the latter making a beautiful background of green to the lovely scarlet of the Epiphyllum. It is by no means detrimental to the growth of the Stephanotis, and by training the stocks on the underside the Epiphyllums hang gracefully down and have a fine effect.—G. PARRANT, *Ashby St. Legers Lodge, near Rugby.*

CALIFORNIAN PRUNES.

SOME interesting particulars are given by Consul Donohoe of San Francisco on the subject of the cultivation of the Prune in California. It is to France that California is indebted for this healthful and profitable fruit. Louis Pellicier, a French sailor, arrived in San Francisco in 1849, and went to work in the mines in Trinity County. He did not succeed well there, and finally removed to San José early in the fifties. Here he established a nursery. He soon after induced his brother Pierre to join him in California, and the two brothers worked the nursery together until the spring of 1856, when Pierre returned to France in order to marry a girl to whom he was engaged. Combining business with pleasure, he secured a large number of cuttings of Prunes, Grapes, and other fruits, which he brought back with him on his return. The Prune cuttings were procured in the Villa Neuve d'Agen, from whence the common Californian Prune derives its name of "Petite Prune d'Agen." They were carefully packed in a box about 16 inches square by 4 feet in length, which was lined with cloth, and every precaution was taken to insure the safe arrival of what has since proved the germ of one of the most important industries of California. The importance of Pellicier's experiment was not appreciated for about a quarter of a century after he began it, but at length the superiority of California as a fruit-growing State forced itself upon public attention, and the Prune was given a trial. From that time the growth of the industry has been phenomenal.

The Prune, says Consul Donohoe, is a very hardy tree, and will grow where the thermometer touches zero. Its favourite habitat, however, is a temperate climate, with a warm generous soil. It is estimated that in California, in Santa Clara county alone, when the trees now growing shall have matured, the annual product will be over 40,000,000 lbs. of dried fruit. The most extensive single Prune orchard in the State is now in the Salinas Valley, in San Luis Obispo county, on the eastern slope of the coast range, near the town of Templeton. In this orchard there are nearly 300 acres of Prunes in one body, containing 324,000 trees. The first Prunes were grafted on Plum stock, but this has grown into disfavour on account of the tendency of Plums to throw out suckers, and other stocks, the Peach, the Apricot, and, lastly, the Myrobalan Plum, have come into use. The principal markets for California Prunes are Chicago and New York. The quantity now consumed in the United States is enormous. It will be years before the demand on the other side of the Atlantic can be supplied, and when that shall

have occurred there will be the markets of Europe and the rest of the world to supply, for the California Prune is said to be superior to the French Prune in flavour, while it will keep better and longer without sugaring than the latter.

PHILIPHAUGH, N.B.

THIS beautiful estate adjoins that of the Duke of Buccleuch in Selkirkshire, and the mansion commands a fine view of Bowhill and the surrounding country. The classic stream of Yarrow runs in front of the house and lends an additional charm to the surroundings. Philiphaugh, long the property of the Murrys, was purchased from them some four years ago by W. S. Steel, Esq., and with characteristic thoroughness he has gone in for making an entirely new garden, where everything may be had of the best. Four splendid ranges of glass houses have been erected in the kitchen garden, and a magnificent conservatory is just being completed adjoining the mansion.

The first range entered is 160 feet long, 13 feet high, 16 feet wide, three-quarter span. It is in four divisions, three being devoted to Vines and one to Peaches and Nectarines. The first division is planted with Black Hamburgh and Foster's Seedling, the second is planted with Muscats, and the third with Gros Colman, Alicante, and Lady Downe's. The back wall is covered with Vines bearing fruit. The Vines planted in the front are being allowed to grow and ramble as much as possible. Planted in July, 1891, they had much to contend against in that they were attacked by wireworm, which abounds in the turf in Selkirkshire. Thousands were trapped and killed, and gradually the Vines made headway against their enemy. When rid of their foe they will no doubt make splendid canes. The fourth division in the range is devoted to Peaches and Nectarines. The best varieties are being cultivated, and all the trees looked well. In addition to the Vines and Peaches this range contained a large number of Tomatoes in fine fruit, and a choice display of Adiantums, looking as if they were at home, also some very fine early Chrysanthemums with splendid blooms.

The second range entered is in six divisions, span-roofed. The first contained Melons on the front and Cucumbers on the back, all doing splendidly; beneath them many things were being propagated, so that no space was lost. The second division was similarly occupied. The third division contained a grand lot of Eucharis, Palms, and Ferns, while on the roof, in the healthiest luxuriance, hung fine specimens of Dendrobiums and Calanthes. The fourth division presented a fine appearance. Splendidly coloured Crotons and Dracænas lighted it up beautifully, and in addition the eye could rest on many very beautiful specimens of Palms, Ferns, and stove plants in general. Looking to the roof grand plants of Dendrobiums formosum giganteum, Wardianum, and noble were to be seen, also fine plants of Calanthes. The fifth division contains a mixed collection of Orchids, Vandas, Lælias, Cattleyas, Cœlogynes, and Dendrobiums being all represented by fine specimens in the best of health. Mr. Steel has a special liking for Dendrobiums, as natives of Burmah, where he has lived a considerable time. D. formosum giganteum is represented by numerous grand plants, one specially fine variety being in flower. The sixth division is filled with cool Orchids, mostly Odontoglossums, all in good health.

The third range of glass is, like the other two, 160 feet long. It is 16 feet wide by 13 feet high, and is span-roofed. It is in three divisions. The first is devoted to a general collection of greenhouse flowering plants, with Tomatoes trained up the rafters in front and over the whole of the back. Everything in this division seemed in the best possible condition. The second also contains greenhouse plants, mostly Pelargoniums, Celosias, Lilliums, Petunias, and Chrysanthemums. Habrothamnus, red and yellow, were planted on the back, also more Tomatoes. All these were, like the rest, in perfect health. The third division is planted with Peaches and Nectarines on the front and Figs on the back, the latter being nearly all Brown Turkey. The stage in this house was filled with a finely flowered collection of young Fuchsias, also Petunias, Vallotas, and early Chrysanthemums.

In front of this range a number of very useful pits are placed, 160 feet long by 6 feet wide; these were full of Cinerarias, Primulas, Capsicums, and French Beans. It is nearly always necessary to grow the latter in pits in such elevated parts of Selkirkshire, Philiphaugh being some 460 feet above sea level. It is only rarely that French Beans can be got to do well outside at Clovenfords, and the experience at Philiphaugh is much the same. In a sheltered corner in front of these pits 600 fine plants of the best varieties of Chrysanthemums were standing, all giving promise of being up to the mark when the time for blooming arrives. At a little distance from the main block of glass there is another fine range at the top of the new kitchen garden. It is 188 feet long by 10 feet 6 inches wide, lean-to. A considerable portion is planted with Peaches, back and front; the varieties being mostly Princess of Wales, Sea Eagle, and Late Admirable. There are also some Pineapple Nectarines. Another portion of the range is devoted to Plums, Pears, and Apples, all doing well.

Adjoining the young gardeners' quarters there is a span-roofed house, 40 feet long by 16 feet wide. At the time of my visit (Sept. 14th) this was full of fine Lilliums, Begonias, and Camellias, but in a short time it will be filled with Azaleas and such plants, which are at present outdoors. The Begonias and Lilliums were in fine bloom. I may mention the young gardeners' rooms, which are next to this house. They are new, and in every respect are what such quarters should be. Externally they are handsome, and internally they are commodious and comfortable. They are heated throughout with hot water, each man has a separate

bedroom, and there is a splendid bathroom. Mr. Steel deserves every credit for having provided such excellent accommodation for the garden assistants, and there are many places in the country where his example might well be followed.

The new kitchen garden is nearly 3 acres in extent, and the crops in it are very heavy. Evidently the soil is good, and aided by good culture. The fruit-rooms, store-rooms, potting sheds, and Mushroom houses form a fine range of buildings, and are, like all else about the place, excellent. The fruit-room being all in pitch pine looks a model of what such a place should be. The whole glass is heated by five improved saddle boilers with water bars. These are a great improvement, and are becoming much used.

The mansion is about four minutes' walk from the garden, and is a commodious and beautifully situated building. It commands a fine view of the hills and dales, the woods and streams that go to make the surrounding country beautiful. The conservatory, which is entered from the dining-room, and which is just being completed, is a handsome structure, 60 feet long by 42 feet wide, and 22 feet high. The framework is of iron, the only wood about it being the doors, which are of teak. The floor is most beautifully laid with octagons of different coloured marbles. There is a narrow bench round the sides for plants, beneath which there is a narrow pit for planting creepers in, and then in the body of the house there are two tanks to be filled with large Palms and Tree Ferns. Another space is to be occupied with a small fountain, and the rest of the house is for promenading and lounging in. Altogether it promises to be very beautiful when finished, and will enhance the pleasure of the proprietor without a doubt. Close to where the mansion stands was fought the battle of Philiphaugh. This memorable struggle took place between the forces of Charles I. and those of the Covenanters. It was fought on September 13th, 1645, and a monument in the grounds commemorates the event.

Should any of the staff or readers of the *Journal* ever happen to be in or near Selkirk they should not miss seeing Philiphaugh. Cultural skill, wealth properly directed, and natural advantages, all combine to make it one of the most interesting places in the country. Mr. R. Thompson, the able and energetic gardener, has shown what can be done in a short time to turn a bare field into a garden full of the choicest fruit, flowers, and vegetables. Since March, 1891, a new garden has been made, four large ranges of glass, a fine conservatory and numerous ranges of pits, also ranges of sheds, gardeners' house, &c., have been erected, roads, walks, and lawns have been formed—indeed, an amount of work has been done that speaks volumes for the directing skill and energy at command. Given another two years the place will be one of the most complete and interesting gardening establishments in the country. By that time the Vines will be showing what they can do under skilful treatment, and no doubt in due time some of their productions will adorn the show tables.

I may mention that the plans of the glass structures were prepared from sketches by my father. Philiphaugh is two and a half miles from Selkirk Station, whence there is a branch line to Galashiels, where the main or Waverley line is reached. Situated as it is amidst sylvan beauties, rich and rare, close to the murmuring stream of classic Yarrow and surrounded by the Heather hills, Philiphaugh has many charms. May its owner long enjoy its beauties. He has done much to encourage horticulture since he came to Selkirkshire, and his efforts, ably seconded by those of Mr. Thompson, are being crowned with conspicuous success.

—JOHN THOMSON, *Clovenfords*.

HORTICULTURAL SHOW.

CHELLENHAM.—SEPTEMBER 21ST AND 22ND.

THE annual Exhibition was held at the Winter Gardens as usual. It opened on the 21st in very unfavourable weather, rain falling in torrents most of the day, which considerably diminished the attendance. Taken altogether the Show was probably the best ever held, the exhibits generally being very good. For six stove or greenhouse plants Mr. J. Cypher was a good first, his *Statice profusa*, *Allamanda nobilis*, *Bougainvillea glabra*, *Erica Marnockiana*, *Clerodendron Balfourianum*, and *Ixora Williamsi*, all being fine. Messrs. Heath & Son staged well for the second prize, their best plants being *Ixora Duffii*, *Allamanda grandiflora*, and *Phlox maculata* *prolifera* Barnesi. For a collection of thirty plants in or out of bloom, grouped for effect, Mr. J. Cypher put up some of his well known exhibition plants, consisting of well coloured Palms and Crotons, *Caryota sabilifera*, *Allamandas*, and others. Messrs. Heath and Son were a very good second with an effective group. With eight varieties of Fuchsias Messrs. Heath & Son were an easy first, having large well bloomed plants. Mrs. Gillilan, Cheltenham (gardener, Mr. A. Mansfield), was second. For six tuberous Begonias T. P. W. Butt, Esq., Arle Court, Cheltenham (gardener, Mr. Marsh), was first with good plants well bloomed, and Captain Littledale second. For eight varieties of Zonal Pelargoniums Mr. Lingwood, Cheltenham (gardener, Mr. Lewis), was first and Mrs. Gillilan second. With twelve exotic Ferns Mr. J. Cypher was a grand first. Messrs. Heath & Son were second.

Dahlias were of extra quality. Messrs. Heath & Son secured premier honours for twenty-four distinct varieties; Mr. G. Garraway, Bath, being second; and Mr. G. Maylett, Worcester, third. For twenty-four blooms of German Asters, Mr. A. A. Walters, Bath, was first; Messrs. J. Price & Son, Stonehouse, second; and Mr. F. Evry, Bath, third. With twenty-four French Asters, Mr. S. Cooper, Mr. G. Garraway, and Mr. T. Evry took the honours in the order named, all staging well.

For twelve varieties of Roses in bunches of three, S. P. Budd, Esq., of Bath, put up a beautiful lot and was placed first; Mr. J. Townsend being second; and Mr. T. Hobbs, Bristol, third. For the best dinner table decoration, Miss Sturt was a good first with a very tasteful arrangement, and Mrs. Gillilan, second, her exhibit being a little heavy. Gladioli were best shown by Messrs. G. & W. Yates, Evesham, J. Price & Son, and J. Cypher in the order named.

Fruit was extensively exhibited. White Grapes were not as a rule well finished. Apples, Pears, Plums, Peaches and Nectarines made a good display, and were very fine. In the collection of eight dishes of fruit, Lord Coventry (gardener, Mr. Child), Croome Court, Worcester, was a capital first with Muscat of Alexandria and Gros Colman Grapes, Queen Pine, Imperial Melon, Brown Turkey Figs, Humboldt Nectarine, Alexander Noblesse Peach, and Jefferson Plum, all fine. H. C. Moffat, Esq. (gardener, Mr. Spencer), Goodrich Court, Ross, was a good second with Alicante and Muscat of Alexandria Grapes, Queen Pine, Golden Gem Melon, Dr. Hogg Peaches, Pineapple Nectarines, and Souvenir du Congrès Pears. In the black and white Grape classes, Lord Sudeley, C. Lee Campbell, Esq., the Rev. G. Coventry, and T. P. W. Butt, Esq., were the principal winners. For Peaches and Nectarines, Colonel Rogers (gardener, Mr. Lusty) was the most successful exhibitor. With Plums, C. Lee Campbell, Esq., took the lead; Lord Coventry held the same position for Apples, and Mr. W. E. Smith for Pears.

Vegetables are always a strong feature at Cheltenham, but local men had to give place to Mr. Geo. Garaway, of Bristol, in the collection of nine dishes. He staged a model lot. Mr. A. Cook was second, also putting up a fine collection. For six varieties Mr. W. J. Davis, Stroud, was first, and Mr. J. R. Greatorex second, both exhibiting excellent produce. For Messrs. Sutton & Sons' special prizes the last named exhibitor was first, Col. Rogers second, and Mr. J. J. Kitchen, Birmingham, third. For Messrs. Webb & Sons' prizes Mr. G. Garaway was first, Mr. S. Evry second, and Mr. J. J. Kitchen third. The single dish classes were well contested, the above named being the most successful prizewinners.

Trade exhibits were very good. Mr. B. Ladhams, of Shirley, Southampton, put up a splendid collection of hardy herbaceous flowers; also Messrs. G. & W. Yates, who, in addition, had some fine Dahlias and Begonias on their stand. Messrs. White, of Worcester, had a fine group of Cactus Dahlias and other flowers.



HARDY FRUIT GARDEN.

Gathering Fruit.—Favourable weather having had a beneficial effect in rapidly maturing Apples, Pears, and Plums, frequent if not daily attention is required in examining the trees, carefully gathering the most forward fruits before birds or wasps select them for attack. It is important that those intended for storing be gathered in the most perfect condition. The slightest piercings with holes by birds or wasps render them quite unfit for prolonged storing. Many of the later varieties of Apples and Pears are still swelling well. These can be safely left to hang some time yet, taking the precaution, however, to gather them before very severe frosts occur. Slight spells will do no harm. Late Plums not yet gathered must be netted over or taken off the trees, storing in a dry fruit-room.

Lifting Fruit Trees.—This operation may be performed a little earlier in the autumn than root-pruning, though it effects a somewhat similar purpose. It is adopted chiefly with young trees which are portable and easily moved, but exhibit a tendency to produce strong gross wood; this, if allowed to remain unchecked at the feeding source, would destroy the balance of growth, leading trees into permanent unfruitfulness.

Advantages of Root Disturbance.—The best and most important roots of all trees of a fruit-bearing nature are those of a fibrous character. Such roots are produced by the occasional lifting and pruning back of the strongest roots, which are thus encouraged to emit fibres, and if these are supplied with good soil they ramify near the surface to the decided benefit of the trees. They multiply until a healthy mass of feeding fibres is secured, inducing firmer, shorter wood growth, and an abundance of fruitful parts. The first needing attention in this respect are the choicer stone fruits.

Peaches, Nectarines, and Apricots.—These being similar in growth and requiring almost identical treatment may, after a few years' growth, be lifted with advantage, providing they exhibit a gross tendency of wood growth requiring restraint. Lifting is best done in the early part of October before the leaves fall, though it may be done later. Take advantage of the opportunity to remove some of the inert soil, substituting fresh, consisting mainly of good loam mixed freely with wood ashes and one-fourth of lime rubble. In cold heavy soils drain the position thoroughly and replant on slightly raised mounds. Follow with a slight mulch of half-decayed manure to protect the raised roots from frost. The following year the effect will be seen in an even distribution of vigour and healthiness throughout. If bright weather should occur

immediately after lifting water at the roots will be needed, also syringing of the foliage and possibly shading.

Pears and Apples.—Lifting may be frequently done with these in the case of small or medium sized bushes as well as pyramids before the latter attain to full proportions. It is not advisable to lift wall-trained trees except in the case of Peaches, which are annually detached from the walls for the winter season. With these exceptions wall trees are better left permanently secured, invigorating the trees as needed with surface dressings and periodical root-prunings as required. Those in a fruiting condition will need no root disturbance.

Assisting Impoverished Trees.—Continuous crops of fruit being a great strain upon most fruit trees, especially in light soils, it is advisable to assist the roots when the appearance of the trees indicates any approach to weakness, or they are more than usually liable to attacks of red spider and other insects. There are two methods of enriching the ground in which the roots of old established trees are contained.

Applying Liquid Manure.—Where enough of this valuable fertiliser can be readily obtained there is nothing better for enriching the ground for fruit trees. Commencing now it may be frequently applied in open weather throughout the autumn and winter in moderate quantities at a time, distributing it over the whole area of ground bounded by the spread of the branches. Failing this, and in very dry soils, clear water would do good applied in sufficient quantity to moisten the ground well.

Surface Dressings.—When the ground is moist enough, though impoverished, remove some of the surface soil, and apply a dressing of loam and manure, charred refuse, leaf soil, or old hotbed manure. The roots this material comes in contact with will soon appropriate its virtues and increase in number, benefiting the trees considerably. After a time the advantages of treating trees liberally will be so apparent that in the future the process will be annually repeated.

Manuring Strawberries and Raspberries.—The ground between these being now quite clean and free from weeds, a moderately rich dressing of farmyard manure containing a fair quantity of short, strawy material may be spread between the plants. The warm autumn rains will wash down the virtues of the manure to the roots, which will become strengthened, increased in number, and charged with vigour for the next season's growth, while the strawy portion left on the surface as a residue serves to resist the action of severe frosts, and forms a very efficient protection to the mass of active fibres.

Young Strawberries.—Recently planted beds, after a final hoeing and drying of the surface to kill the seedling weeds, may have a thin protective covering of short littery manure spread between the plants, the object being to ward off cold cutting winds and prevent severe frosts crippling the foliage too much. The ground having been properly enriched at planting time needs little manurial assistance until near the cropping period.

Retarded Fruit.—Frequently examine Morello Cherries and Red Currants which have been matted or netted up to protect the fruit still hanging on the trees. If kept dry, moderately airy, and free from mouldiness, they will keep firm and fresh for a considerable time, but decaying berries allowed to remain for any length of time soon spoil the rest.

Renovating Neglected Fruit Trees.—If not previously done the first steps towards improving such trees as have had little or no attention for some time ought to be taken while the foliage is still present. Too much pruning is left, as a rule, for the winter season, because the importance of the thin disposal of wood during the period it is most needed—summer and autumn—is not sufficiently noted, hence the crowded state and unfruitful condition of many otherwise excellent trees.

Standard Trees.—These have frequently too many main branches, and are too often crowded in the interior with useless spray. Prune all the latter away close to the trunks or main branches from which it springs. Thin out the branches, especially in the centres of trees. Avoid shortening those left except where they may be encroaching on adjoining trees.

Wall and Pyramid Trees.—These, when large, have often an excess of branches with crowded clumps of spurs. Both should be well thinned out. Horizontally trained trees can, in many cases, have every other branch cut away with advantage. The same thorough removal can be also adopted with pyramids. Afterwards cut out crowded and ill-placed spurs, and shorten foreright shoots closely back. Trees of this description will require root-pruning to curb the excessive vigour they would otherwise exhibit next season.

FRUIT FORCING.

Melons.—In Houses.—As the days are shortening rapidly and the moisture increases it is necessary to exercise care and judgment in watering, never doing it unnecessarily, but the latest plants with fruit swelling must not be allowed to become so dry at the roots as to prejudice the foliage. Maintain moderate moisture by damping the floors, walls, and sides of the beds every morning and at closing time, and earth up the roots as required, but late plants require less soil to grow in than the midseason plants. Remove all superfluous growths as they appear, and maintain a temperature of 65° to 70° at night, 5° less on cold nights, 70° to 75° by day, up to 85° or 90° with sun. Keep the bottom heat at about 80°. Fruit ripening will be better for a little extra fire heat and a little air constantly; a dry condition at the roots, but not so as to cause the foliage to flag, accelerates the ripening process and enhances the quality.

In Pits and Frames.—In those heated by fermenting material no water will be required after this time unless the soil is dry and the foliage becomes limp, which it must not be allowed to do. Any water given must be so supplied as not to wet the foliage and surface of the bed more than can be helped. Keep the frames well lined, admitting a little air constantly, which, with the fruit raised well above the surface of the bed will do much to accelerate the ripening, prevent decay, and impart flavour. Any fruit it is wished to keep for a time should be cut when changing with a good portion of stem, and be kept in a dry airy room, or if wanted ripe at once it may be placed in a warm airy house on a shelf in the full sun. Melons ripen better there than in frames or pits devoid of artificial heat.

Cucumbers.—*Winter Fruiterers.*—These should be planted as soon as they are ready. A good bottom heat is essential to success, whether it be obtained by the aid of fermenting materials or hot-water pipes; but a somewhat higher temperature is needed to commence with if fermenting materials are used, as the heat will decline, and there should be hot-water pipes beneath to keep up the bottom heat when that of the fermenting material declines. The soil may consist of light turfy loam with a third of fibrous peat, a sixth of old mortar rubbish, and a tenth of charcoal, the whole well incorporated. It is better to rely on liquid manure and surface dressings than to employ manure in the compost for imparting vigour.

Autumn Fruiterers.—Strive to maintain a healthy and vigorous growth, and be careful not to overcrop the plants. Secure a temperature of 75°, say 65° at night, 70° to 75° by day artificially, and 80° to 90° from sun heat. Although a moist and genial atmosphere is essential a stagnant one should be avoided by careful ventilation, being particular not to admit cold and drying currents. Be sparing in the use of water, especially over the foliage, a genial atmosphere being secured by damping available surfaces in the morning and afternoon, but gradually reduce the moisture as the days shorten and the sun heat declines. Add a little fresh soil as the roots protrude at the sides of the hillocks or ridges, previously warmed, about every ten days or a fortnight; supply liquid manure once or twice a week, as may be necessary, and fumigate moderately on two or three consecutive evenings in case of an attack of aphides.

Plants in manure-heated frames or pits must have the linings renewed as required, the foliage being kept rather thin, the shoots well stopped to a joint beyond the show of fruit, and no more water given than to secure healthy moisture for the roots, placing mats over the lights on cold nights.

THE KITCHEN GARDEN.

Cauliflowers.—Since the introduction of the early dwarf varieties there has been less need to sow seed in the autumn and to winter the bulk of the plants thus raised under glass. It is not advisable, however, to wholly discard the old practice, and if a batch of plants have been raised in the open they should be taken good care of. Before they are very large the bulk of them should either be dibbled out in handlights on good ground, where some of them are to heart or be pricked out in frames set on a shallow bed of old heating material. The soil—any loamy mixture will do—should be raised well up to the glass, and after being made rather firm the young Cauliflowers may be dibbled out 4 inches apart each way. They will not move particularly well out of a bed of soil, and for this reason the plan of placing the plants either singly in 3-inch pots or in pairs in 4-inch pots finds favour with many, as the plants move out of these readily enough in the spring. In either case there must be no coddling, fire heat in particular being objectionable. All that is necessary is to protect from severe frosts and to ventilate very freely at all other times. It is now somewhat late to sow seeds, but if a frame and light or two newly cleared of Cucumber or Melon plants can be spared, level the bed, water if dry, and sow the seed thinly broadcast. Plants may be available next spring. Autumn-raised plants of Veitch's Autumn Giant will heart very early in the following August, this fact being turned to good account by the most successful exhibitors, and plants should also be raised in the autumn by those who are desirous of maintaining an unbroken supply of Cauliflowers.

Cabbage.—Those who sowed seed of Ellam's Dwarf Spring by the middle of July and other favourite varieties then or a fortnight later, should have, ere this, got out a good breadth of plants. According as the more weakly plants, and those raised later, become strong enough to move, find room for them, and failing a good supply of home-raised plants buy as many as are wanted from a reliable source, as it is scarcely possible to over-estimate the value of a good supply of spring Cabbages. They form a succession to either Onions or Peas, the ground not being dug in either instance. Strong growth is not desirable before the spring, and if the ground is somewhat poor now it can easily be enriched in March by means of liquid manure or surfacings of soot. Extra large Cabbages are the least economical. Instead, therefore, of placing the plants in rows 2 feet apart bring the stronger growers 6 inches nearer together, and those of the type of Ellam's Dwarf and Wheeler's Imperial may well be disposed 15 inches apart each way. If the first batch were put out 2 feet apart dibble plants of smaller growers midway between them and draw and use these first, the rest being left, if need be, all the rest of the year.

Beans.—In many low lying localities both Runner and Kidney Beans were destroyed by frosts on or about September 13th, this, in the case of the former, being before they had time to pay for the trouble taken with them. A few overhanging branches of fruit trees not

unfrequently afford sufficient protection from frosts, and in all cases where the Beans are injured it is advisable to have some kind of protective material, notably branches of Beech trees, in readiness for fixing over the rows. Cotton or canvas blinds, mats, and such like might be utilised for a similar purpose, and the Beans be kept in a productive state for another month. If dwarf Beans have been sown on a warm border with a view to protecting them they ought now to be well advanced in growth, and should be covered with frames or have benders and mats placed over them whenever the nights are cold. Those in pits and frames should be kept steadily growing, the aim being to have them in a productive state during November. Any sown at this comparatively late period had better be kept in pots and grown on shelves or light stages in forcing houses, much as they are forced in the spring.

Late Peas.—Late Peas also suffered badly from the frost alluded to, this being especially the case with those situated in the lower part of a garden. Those on the ridges between Celery trenches and on high ground generally were uninjured, and are producing serviceable dishes. If they could be protected much as advised in the case of Beans, gatherings might very probably be had up to the middle of November. Small birds are very troublesome among late Peas, completely marring many a good crop. They cannot be scared away, and nothing short of either trapping them extensively in the small bird gins supplied by most ironmongers, and baited with young Peas, or else of closely netting over the rows, will save the crops. Three-quarter-inch mesh netting is needed; failing it, use a double thickness of the netting that is available.

Endive.—Good well blanched Lettuce will soon be scarce, and Endive will be in demand accordingly. Supposing the more forward plants of the latter are nearly fully grown some of them should be blanched where they are growing. If the outer leaves are brought up well together and kept so by means of raffia ties, the hearts will soon blanch, though the process may be further expedited by means of 6-inch or larger pots inverted over them and the holes stopped. Endive planted out now will scarcely attain to a serviceable size before severe frosts set in, but small plants are usually the hardiest and may stand through the winter and give fairly good hearts next spring.

Spinach.—Where the ground was well prepared Spinach sown in August came up better than usual. It is the usual practice to thin out the plants as the thinnings become large enough to use, but this season it may have proved a somewhat risky plan. Nothing but free and early thinning out the ordinary round and prickly seeded varieties prevented them from running prematurely to seed, but the Victoria being naturally later and less given to bolting, fully maintained its credit. Should the weather keep mild even the later sowings must be early thinned out, the plants at first being left 3 inches apart, finally thinning them to about 6 inches. If grubs attack the plants they ought to be hunted for and destroyed, a pointed stick being the handiest thing for loosening the ground and bringing the grubs to light.

THE BEE-KEEPER.

APIARIAN NOTES.

HOME FROM THE HEATHER.

I HAVE returned home after nearly six weeks' stay at the Heather, the weather being almost sunless the whole time, accompanied with wind and a low temperature never before experienced by the oldest natives living. We had more sunshine on the 21st, the day I brought my bees home, than all the time I was there put together, and, singular to say, the only serene day since December, 1891. It is little wonder, then, that we envied the fine weather said to be prevailing in other parts of the kingdom, where large yields of honey have been obtained. We have unfavourable seasons frequently, but the present one at the Heather is the worst I have had for thirty years. The honey season on the whole is, however, better than it was in 1891 or in 1862 either. Taking memory and history into account, I find that we have had a succession of unfavourable summers periodically every thirty years: 1890, 1891, 1892; 1860, 1861, 1862; 1834, 1835, 1836.

MONOPOLY.

The greatest profit from honey goes into the dealer's pocket, much on the same principle as that from beef and mutton does. My pen did some service towards checking in the bud a system of honey dealing which, had it succeeded, would have bought all the honey in the country at 3d. per lb., and bee-keepers were to be thankful for that, as they had no right to expect remuneration for

time spent on bees. Had this succeeded there would have been an entire end to profitable bee-keeping, due entirely to so-called friends of bee-keepers. In addition to my remarks "A Hallamshire Bee-keeper" drafted at great labour a synopsis of a system for bee-keepers to dispose of bee products on a co-operative principle remunerative to bee-keepers. I mention this as introductory to other matters for the benefit of beginners, and I trust they will remember that all practical information on bees and bee-keeping was first promulgated through the *Journal of Horticulture and Cottage Gardener*. The best proof of this is to turn back a dozen years or so, and read on up to the present time the other journals both of this country and America. The question will naturally arise, Where did they get the information, and why have they changed their minds, and the management of bees? Turn to the pages of our *Journal* and the answer to the question will be clear.

WHAT VARIETY OF BEE IS BEST?

This is a question commonly put by beginners. Were I restricted to one pure variety, the Carniolan would be the selection. With them there is little or no stinging, consequently no veils or nauseous smoke are necessary, and the purest of sweets is got in all its purity. They are the best winterers of any, strong on the wing, long and distant flyers. They are industrious honey gatherers and quick sealers. They are of all the least inclined to rob other hives, but there are no bees entirely free from this vice. They do not, like some varieties, raise an enormous number of queens, and, as a rule, they are all perfect. When swarming, they sometimes fly a long time, but never to a great distance. They are the best locaters of their site, flying directly to it, and do not mix with other bees, as some varieties do. To prevent hiving after swarms, these, like all other varieties, should, on the ninth day after the first swarm, have all surplus queen cells removed, either by forming nuclei or to destroy them. Unfortunately pure Carniolans are not easily got now, the greater number having yellow bands characteristic of the Syrian bee, that bee being the one selected by dealers to cross others with on account of its beauty, and thus commanding a sale. I believe there is not such a bee as a pure Italian Alp bee in America, nor are Carniolans having yellow bands, or even those of a light colour, pure.

PURE CARNIOLANS

are easily known by their trig shape and light coloured markings, but the most distinguishing feature is when the wings are closed and the head of the bee towards you; owing to the reflected rays the anterior part of the abdomen appears to the deceived eye as reddish orange. Sometimes the bees of some colonies have a few brown hairs at the same point, but never anything like yellow bands. The crosses of the Carniolan are superior, and perhaps as good as any; but were I restricted to one cross only I would keep no other but pure Punic, crossed if possible with Carniolan drones. They possess all the properties sought by modern bee-keepers. The untoward seasons we have had since I became possessed of pure ones have prevented a fair test, but at the Heather a swarm of pure ones were a sight to see, rarely witnessed by—A LANARKSHIRE BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

M. M. Ketten Frères, Luxembourg, France.—*Roses*.

Messrs. Ph. Mayfarth & Co., Frankfurt, and 16, Mincing Lane, London, E.C.—*Machinery for Horticultural Purposes and Fruit Evaporating*.

Messrs. W. Paul & Son, Waltham Cross.—*Roses, Hardy Trees, Shrubs, Herbaceous Plants, and Fruit Trees*.

Tottenham Nurseries, Limited, Dedemsvaart, Zwolle, Netherlands.—*Plants, Shrubs, Roses, Fruit Trees, &c. (wholesale)*.

Mr. Charles Turner, Royal Nurseries, Slough.—*Roses, Fruit Trees, and Nursery Stock*.

Mr. W. Wells, Earlswood, Surrey.—*Chrysanthemums*.



*All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Cypripedium (J. J. S.).—Please send a good flower packed in damp moss, so as to arrive in a fresh condition. That received was quite dried up, owing to spending Sunday in a box with nothing to keep it fresh, and we cannot form an opinion of it.

Peach and Nectarine for Unheated House (E. T. B.).—You could not have a better Peach than Royal George, and as a Nectarine none surpasses Victoria, but it is late, and if you want one to come in with the Peach you may select Dryden. We are not aware that the Violet named is in commerce; if it is it ought to be advertised.

Bulrushes Casting their Fluff (A Reader).—We are unable to tell you what will prevent the "flowers bursting;" but we have not found any difficulty from this after taking care to cut them with the necessary amount of stalk as soon as the pokers were just clear of the sheaths. That, it appears, you have not done, but have been too late. Perhaps some of our correspondents can assist "A Reader" to a preventive.

Wintering Fan Palms (B. C.).—If it be *Chamaerops Fortunei* it may be wintered safely in an outhouse or stable stall which has a fair amount of light, and the roots are protected with hay or straw, only giving sufficient water to keep the soil moist. Should it be a *Latania* it would not winter safely in such a position. The other is nearly hardy, and would succeed outdoors in sheltered positions, but it ought not to be put out at this time of year. Keep it until next spring in the outhouse, and then give it a trial.

Tea Roses for Growing in Pots (St. J. A.).—Of the varieties you name the following are suitable for growing in large pots, but it is a great mistake to overpot Tea Roses:—*Madame Lambard, Madame de Watteville, William F. Bennett, Safrano, Marie Van Houtte, Souvenir d'un Ami, Comtesse de Nadaillac, and Hon. Edith Gifford.* *Maréchal Niel* and *Rêve d'Or* are best planted out. We have not grown the others you name. *Adam (President)* and *Madame de St. Joseph* are excellent, as also are *Sunset* and the indispensable *Niphetos*.

Red Spider on Violets (Inquirer).—The best remedy is plenty of nutriment and copious supplies of water. We always mulch our Violet plants out of doors with manure as soon as they become established after planting, and we are never troubled with red spider either outdoors or in frames. Manure, keep the soil moist, and there will be little or no red spider. Put a peck of soot in a tub, use enough water to form a paste, then add 60 gallons of water, and with this syringe the Violet plants, using the clear liquid only. This will destroy the red spider and invigorate the plants.

Brompton Stocks and Wallflowers (W. D.).—The Stocks having been thrice transplanted ought to withstand an ordinary winter in sandy soil; still, as there is always the possibility of a severe winter occurring it is prudent to establish as many plants in pots as can be accommodated in a cold frame, or where some protection can be improvised. With a clear space between the rows of your Wallflowers the plants ought to be sufficiently hardy for passing the winter with little or no injury, but everything depends on the severity and continuance of frost. Tree leaves lightly placed amongst and over the plants afford good protection in severe weather.

Tortoise in Garden (A. B.).—We presume the "small tortoise" is the common European species (*Testudo graeca*), so frequently domesticated, and which occurs chiefly on the western borders of the Mediterranean Sea. The animal has the habit of hibernating through the colder part of the year, and retires to some quiet corner, from which it emerges in spring. We have no experience of it as a household pet, but it seems to require no feeding, usually finding sufficient insects about a garden and greenhouse to satisfy its appetite. It would be at home in a greenhouse during the winter, allowing it to retire, and taking care it is not disturbed. We find it has instinct enough to find out a snug place to hibernate. We have no experience of it outdoors, as it always takes care to get where it is comfortable when the cold weather comes on, and generally makes its "nest" in a greenhouse or similar structure.

Vine Leaves Deficient in Chlorophyll (R. H.).—The leaves you sent, though large, are thin, and the cells in the spaces between the veins are deficient in green colouring matter (chlorophyll), which causes the light appearance. This is probably due to overcropping and weakness, as the cell growth has exceeded the supply of nitrogenous matters necessary to the formation of the chlorophyll. A similar result is seen in the case of many etiolated or blanched plants that have been grown rapidly either in great heat or a dark position, the strength of the plants being exhausted in the cell-increase, and contain little besides water.

Forcing Spiræa japonica Two Years Consecutively (O. G.).—It is not desirable to pot the plants that were turned out after forcing, as they have not had time to recuperate. We divide our plants into two or more pieces with a spade when they have been sufficiently hardened off after being forced, and plant them in good rich light soil, in a sheltered, but not shaded nor hot and dry situation, in the garden, in rows 1 foot apart, and that distance between the plants, firming the soil well about the roots, and giving a good watering if the weather is dry. In winter they are mulched with spent hotbed manure or leaf soil, and, after growing the following summer, they are lifted and potted after the foliage has fallen, and they are plunged over the pots in ashes, and introduced to the forcing-house in batches as required. With a year's rest they make capital plants. If your plants are in pots we should plant them out now, let them grow next year, and lift and pot them in the following autumn. The plant is perfectly hardy.

Renovating a Vine Border (G. H.).—The best time to renovate a Vine border is when the leaves begin to turn yellow, but before they have fallen. The best compost is turfy loam taken off a pasture, about 2½ inches thick, where the soil is a good yellow loam, neither too light nor too heavy. Add to the turf a sixth part of old mortar rubbish and a tenth of charcoal, thoroughly incorporated. Thomson's manure is a good application, and may be mixed with the soil, but it is most economically given as a surface-dressing. Wood ashes and crushed bones may also be added to the soil with advantage, using about 2 cwt. of each to ten cartloads of soil. It is not wise to lift the roots in both inside and outside borders the same season, but to do one one year and another the next. The best time to lift Peach trees in an orchard house is when the growth is mature, and the leaves give indications of falling. Thomson's manure is a first-rate dressing for Peach trees if the instructions are followed. These subjects have received a large measure of attention in "Work for the Week" lately.

Striking Cuttings of Shrubs (Nemo).—Cryptomeria japonica is best propagated from seed sown in sandy soil in a pan, placed in a cool house, and covered with a square of glass until the seedlings appear; the glass should then be removed, the seedlings hardened and placed outdoors, wintering in a cold frame or house. Cuttings may be inserted now in sandy soil, surfaced with an inch of sand, under a handlight, preferably in a cold house. Biota cuttings should consist of half-ripened shoots, inserted about the middle of August in a cool shaded frame, or in pots put in heat and covered with a bellglass. Retinospora cuttings should be put in during October. Select young side shoots with a heel, insert in well-drained pots of sandy soil, place in a close cold frame, and keep just moist through the winter. By February they will be callused, and should then be placed in gentle heat; they will root freely, after which harden them off and plant them out. Cuttings of Aucuba japonica may be inserted now, though it would have been better done early in the month, in sandy soil in a cold frame. If taken off with a heel they will root in a sheltered situation without a covering of glass, but that is preferable.

Select Tea Roses for Outdoors (Tea Rose).—Tea Roses in the open air require protection in the winter, and when grown in beds it is advisable to take them up at the end of October, pot them, and keep them in a cold pit, taking care to have the lights off constantly in fine weather. They may be planted out again at the end of March or the beginning of April, according to the season. The soil should be rich, light, and well drained. They, however, do fairly well in a sheltered situation, with protection in severe weather, and a good mulching over the roots. Adam, Comte de Paris, Comtesse de Nadaillae, Etendard de Jeanne d'Arc, La Boule d'Or, Madame Bravy, Madame de St. Joseph, Princess of Wales, Souvenir d'Elise, Souvenir de Paul Neyron, Souvenir d'un Ami, Sunset, Viscountess Folkestone, Duchess of Connaught, and W. F. Bennett are moderate growers, and should be planted about 2½ feet apart, or 2 feet if on the margin of a bed. The following should be planted about 3 feet apart:—Beauté de l'Europe, Gloire de Dijon, Innocente Pirola, Belle Lyonnaise, Marie Van Houtte, The Bride, Reine Marie Henriette, Perle des Jardins, Lady Mary Fitzwilliam, and White Lady. It would be a good plan to have the ground well prepared, and defer the planting until spring, especially of those that are received in pots.

Names of Fruits.—Notice.—Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot

be preserved. (J. B.).—The dark Pear is Brown Beurré, the others Beurré d'Aremberg. (J. R. P.).—1, Cox's Orange Pippin; 2, Gloria Mundi; 3, Scarlet Nonpareil. (J. B. Dashwood).—Golden Noble. (Nemo).—3, Winter Hawthornden; 4, Reinette de Canada; 5, Ribston Pippin; the others not known. (Somerset).—Kerry Pippin. (J. Foster).—1, American Mother; 2, Blenheim Pippin; 3, Lord Suffield; 4, Emperor Alexander; 5, Cellini; 6, Emperor Alexander. (J. A. W.).—1 and 2 cannot be named, particulars of the flowers, whether small or large, not having been supplied; 3, White Magnum Bonum; 4, Washington; 5, Diamond; 6, Violette Hâtive. (Alfred Brook).—1, Nonesuch; 2, Bedfordshire Foundling; 3, Dumelow's Seedling; 4, Blenheim Pippin; 5, Duchess of Oldenburg; 6, not known. (A. W.).—1, Pearson's Plate; 2, Potts's Seedling; 3, Lord Suffield; 4, Manx Codlin; 5, King of the Pippins; 6, King of the Pippins. (J. R.).—1, Early Julyan; 2 and 3, We do not undertake to name inferior varieties (see above); 4, Warner's King; 5, Blenheim Pippin. (R. V. and Sons).—A very nice Apple, but do not know the name; probably Sugarloaf Pippin. (J. B.).—Black Morocco. The Fig was quite rotten. (Faic).—B, Royal Russet. The others are probably continental varieties, as we cannot identify them with home-grown sorts.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (Bolney).—1, Helianthus decapetalus; 2, H. rigidus, large variety; 3, H. rigidus, small variety; 4, Verbascum phoeniceum album; 5, Aster Amellus; 6, A. novæ-belgii formosissimus; 7, A. n.-b. densus. (G. A. B.).—Lastrea varia. (F. A. B.).—The flower has puzzled several experienced men. It appears to be a Nerine; send us one or two more flowers in damp moss, and we will try again. (G. R. A.).—1, Griselinia littoralis; 2, Looks very much like Desfontainia spinosa, but the flowers were faded. (J. T. A.).—Veronica longifolia subsessilis. (Nemo).—1, Erodium manescavi; 2, Cotoneaster frigida. (E. H., Hull).—1, Pyrus intermedia; 2, P. Aria. P. Sorbus is the Service Tree.

COVENT GARDEN MARKET.—SEPTEMBER 28TH.

MARKET very flat indeed, with prices much depressed.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, half sieve	1	0	to	3	Oranges, per 100	4	0	to	9
Grapes, per lb.	0	6		1	Peaches, per dozen	2	0		6
Filberts, Kent, per 100 lbs.	75	0		80	Plums, per half sieve ..	2	0		4
Lemons, case	15	0		35	St. Michael Pines, each ..	3	0		6

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beans, Kidney, per lb. ..	0	2	to	0	Mustard and Cress, punnet	0	2	to	0
Beet, Red, dozen	1	0		0	Onions, bunch	0	3		0
Carrots, bunch	0	4		0	Parsley, dozen bunches ..	2	0		3
Caniflowers, dozen	2	0		3	Parsnips, dozen	1	0		0
Celery, bundle	1	0		1	Potatoes, per cwt.	2	0		5
Coleworts, dozen bunches	2	0		4	Salsafy, bundle	1	0		1
Cucumbers, dozen	1	6		3	Scorzonera, bundle	1	6		0
Endive, dozen	1	3		1	Seakale, per basket	0	0		0
Herbs, bunch	0	3		0	Shallots, per lb.	0	3		0
Leeks, bunch	0	2		0	Spinach, bushel	3	0		3
Lettuce, dozen	0	9		1	Tomatoes, per lb.	0	2		0
Mushrooms, punnet	0	9		1	Turriips, bunch	0	3		0

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arm Lilies, 12 blooms ..	3	0	to	5	Marguerites, 12 bunches ..	2	0	to	4
Asters, English, doz. bunchs.	3	0		6	Mignonette, 12 bunches ..	1	0		3
Bouvardias, bunch	0	6		0	Myosotis or Forget-me-not,				
Carnations, 12 blooms ..	0	6		2	dozen bunches	2	0		3
Carnations, dozen bunches	4	0		6	Orchids, per dozen blooms	3	0		12
Cornflower, dozen bunches	1	6		3	Pansies, dozen bunches ..	1	0		2
Chrysanthemums, dozen					Pelargoniums, 12 bunches	4	0		6
blooms	1	6		2	Poppies (var.), doz. bunch	1	0		4
Chrysanthemums, dozen					Primula (double) 12 sprays	0	6		0
bunches	6	0		12	Pyrethrum doz. bunches ..	3	0		6
Eucharis, dozen	2	0		4	Roses (indoor), dozen ..	0	9		2
Fuchsias, per bunch	0	6		1	„ (outdoor), doz. bunch.	2	0		6
Gardenias, per dozen ..	2	0		4	„ Red, per doz. blooms ..	1	0		2
Geraniums, scarlet, 12 behs.	4	0		6	„ Tea, white, dozen ..	0	6		2
Gladioli (various) 12 sprays	1	0		2	„ Yellow, dozen	2	0		4
Lavender, doz. bunches ..	5	0		7	Stocks, dozen bunches ..	3	0		5
Lilium longiflorum 12					Sunflower, doz. bunches	2	0		6
blooms	3	0		5	Sweet Sultan, doz. bunches	2	0		3
Lilium (var.) doz. blooms	0	6		2	Sweet Peas, dozen bunches	1	0		3
Maidenhair Fern, doz. behs.	4	0		6	Tuberose, 12 blooms ..	0	3		0

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (golden) dozen	6	0	to	12	Heliotrope, per dozen ..	6	0	to	9
Begonia, per dozen	6	0		12	Hydrangea, per dozen ..	9	0		15
Chrysanthemums, per doz.	6	0		9	Lilium lanceifolium „ ..	12	0		15
„ large plants, each	1	0		3	Lobelia, per dozen	3	0		6
Cupressus, large plants, each	2	0		5	Lycopodiums, per dozen ..	3	0		4
Draena terminalis, dozen	18	0		42	Marguerite Daisy, dozen ..	6	0		12
„ viridis, dozen	9	0		24	Mignonette, per dozen ..	4	0		6
Euonymus, var., dozen ..	6	0		18	Myrtles, dozen	6	0		9
Evergreens, in var., dozen	6	0		24	Palms, in var., each	1	0		15
Ferns, in variety, dozen ..	4	0		18	„ (specimens)	21	0		63
„ (small) per hundred	6	0		8	Pelargoniums, scarlet, doz.	2	0		4
Ficus elastica, each	1	6		10	„ per dozen	6	0		12
Foliage plants, var., each.	2	0		10	Solanums, per dozen	15	0		18
Fuchsias, per dozen	3	0		6	Tropæolum or Nasturtiums				
Geraniums, Ivy	4	0		6	per dozen	3	0		4



DAIRY FARMING.

THE series of reports just issued by the Board of Agriculture on dairying in Denmark, Sweden, and Germany contain many valuable hints and much useful information for British farmers. It is a disgrace to us that we have allowed Denmark and Sweden to wrest so large a share of our business from us. While we have been grumbling about hard times, and cherishing the blind conceit of a fanciful superiority, treating hints of the possibility of profitable change or improvement in farm management with contempt, they have been striving for improvement in everything and in every way. Have they succeeded? They have, but with all their success the one thing that still makes us hopeful of the future of dairy farming in this country is the fact of the best English or Irish butter being better than any we import. The importance of this is obvious; equally important is it also that first class home made factory butter is in such high demand that there is never enough of it. Managers of factories are outspoken enough about this, but they cannot help it, simply because there is a limit in the capacity of any factory to produce best butter. Milk must be delivered fresh to the factory to afford the best results, it suffers when sent from long distances; butter does not if it is carefully packed.

Plain and forcible is the teaching here. We have not applied it, but Munster farmers are doing so. With them co-operative factories are fast bringing about a revolution in farm management and farm profits. Only a short time ago the Irish lump butter which they sent to market reeking with filth, was practically profitless; now their factory butter competes successfully with any imported butter. The capacity of each factory is limited to the milk of eight hundred cows. Mark this, for it affords invaluable data for the guidance of English farmers. Not simply in the establishment of factories lies our chance of restored prosperity. If farmers are to derive all the benefit from them that is possible they must become shareholders, must have an interest in the whole of the concern, and not be mere suppliers of milk at so much per gallon. They have a splendid opportunity if they grasp it and retain the matter in their own hands. The price of milk will improve strictly according to its quality, but if they allow dealers to forestall them, and factories to become a trade speculation, then the price of milk will be forced down by competition of which the keen dealers will take full advantage.

But we may be told that farmers have no capital to float speculative butter factories. We hold that they possess ample means for doing so. The maximum amount required is £1 per cow, which is paid gradually by calls of 2s. or 3s. for buildings and plant. Once convince them that the scheme is sound and profitable and they will find the money fast enough. Many a farmer might advantageously take a hint from the life of a successful Cheshire farmer who began in a small country shop, then hired a small farm, taking six cows in valuation. Finding the farm did not afford sufficient food for that number of cows, he at once sold one of them, purchased corn and manure with the money, fed both cows and land better, and soon made twice as much cheese as his predecessor had done. Ways and means are plentiful, the great want generally is intelligence to use them. We waste our strength in trying to do too much, we go beyond the scope of our means, are altogether too diffuse. Concentration and centralisation should have much more attention than has hitherto been accorded them by farmers. Their concession to the centralism of the day is to send farm produce to large centres of population. That is right so far as it goes, but

it is for them to see that their produce goes to market in the right form. Because it answers to send milk to London from Essex, Kent, or Surrey, it by no means follows that it can be sent profitably from farms outside the radius of the home counties. It would be better for all southern and midland farmers if the metropolitan milk supply were confined, say, to a radius of twenty miles; then if outside that radius other centres were formed by the establishment of co-operative butter or cheese factories requiring all the milk from surrounding farms, the price of milk would be higher, all factory shareholders at least would have a wholesome incentive to breed or select cows for both quality and quantity of milk. There would then be a general improvement in dairy cows, profits would be higher, farmers would not be so much at the mercy of foreign competitors, and the chief industry of the country would be more prosperous, and less liable to periodical depression. All this calls for organisation and business capacity. We hope next week to show how much of the success of Swede and Dane is owing to this.

WORK ON THE HOME FARM.

Wheat has been harvested so well that threshing machines are in constant use, notwithstanding the low prices. The farmer has now something to sell for which he is paid at once; he is short of ready money, so he sells—it can hardly be said at a profit. The best sorts of Wheat for seed are in demand in the market, a good sample of well-known sorts meeting with a brisk sale at a few shillings per quarter above market price. In most districts there are now some growers of seed corn who find it answer fairly well to purchase a certain quantity of seed from the great seed firms, to raise a stock of seed for sale. If they are thus able to place a good sample of seed on the market it goes very well, because they sell at a comparatively low price; but competition is now so keen that an inferior sample has no chance.

Sow a good sample of winter corn, and sow thickly; thin seeding and bare fallows have had their day. Thick seeding for a full crop and to smother weeds is now answering. No corn hoeing, no bare fallows, and a thick plant of corn all tend to keep down expense. A pound or two per acre saved in crop production, another pound or two gained by having more produce to sell, just make the difference between success and failure. Sow no corn on poor or inferior soil, manure well, and be satisfied with nothing less than a full crop. If there is a doubt about having enough green food in spring, do not hesitate to sow more Rye; it will come into use quickly after the first sowings, and will serve admirably to keep the flock going. Near large towns all green fodder answers well for sale. It may either be sold on the land or sent direct to consumers. The latter plan is preferable, because the work may just as well be done by the farm men, and the carts can always load back with manure. Peat moss and sawdust from town stables are both excellent fertilisers; saturated as they are with urine and containing a large admixture of horse dung they are useful both as top dressings and for ploughing-in. Nothing answers better for fruit plantations and Strawberries as a top dressing. Have a sufficient quantity of either or of short farmyard manure at hand by November for top-dressing fruit trees and bushes as they are planted. Never forget that all our best farmers—the successful men—invariably keep the soil well stored with fertility, for only by doing this is it possible to have full crops.

METEOROLOGICAL OBSERVATIONS.

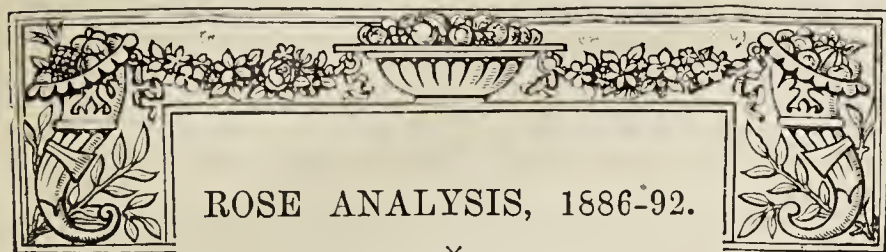
CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.	
1892. September.		Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.		On Grass.
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday .. 18		30.250	54.5	48.2	S.	55.7	66.7	36.4	102.3	28.0	—
Monday .. 19		30.026	60.0	55.2	S.W.	54.9	73.6	49.1	118.2	42.2	0.048
Tuesday .. 20		29.951	60.9	57.9	E.	56.3	70.7	52.7	99.3	46.2	0.028
Wednesday 21		29.979	60.1	59.1	E.	57.2	67.9	55.7	100.2	48.5	0.363
Thursday .. 22		30.202	57.9	56.3	N.E.	57.2	60.9	55.6	67.0	54.9	—
Friday .. 23		30.134	55.4	54.2	N.E.	57.0	65.0	52.4	99.1	53.8	0.049
Saturday .. 24		29.914	59.9	58.3	W.	57.1	67.0	55.9	112.1	50.2	—
		30.065	58.4	55.6		56.5	67.4	51.1	99.7	46.3	0.488

REMARKS.

- 18th.—Sunshine throughout.
 19th.—Bright sunshine almost throughout.
 20th.—Heavy shower at 6.45 A.M., then alternate cloud and bright sunshine; generally overcast afternoon.
 21st.—Overcast and gloomy early; heavy rain from 9.30 to 10.30 A.M., and occasional showers after; some sunshine at midday, and thunder about 3.30 P.M.
 22nd.—Overcast with occasional drizzle.
 23rd.—Occasional sunshine, but generally cloudy.
 24th.—Overcast, with frequent slight rain early; sunny after 11.30 A.M.
 A generally fair autumn week, with temperature rather above the average.—G. J. SYMONS.



ROSE ANALYSIS, 1886-92.

THE Crystal Palace Exhibition of the National Rose Society proved this year the most extensive the Society has yet held. On the other hand, the number of Roses tabulated for the purpose of this analysis is the smallest for six years. This apparent anomaly is, however, easily accounted for by the fact that at all previous Exhibitions four prizes in nearly all classes have been awarded, whereas this year there were but three prizes in each class. Consequently, as this analysis only concerns itself with those flowers which appear in prize stands the number at our disposal is considerably smaller than it otherwise would have been.

The following statement gives the number of Roses noted down at each of the last seven Exhibitions, making a total of 13,000 Rose blooms in all.

	1886	1887	1888	1889	1890	1891	1892
Hybrid Perpetuals...	1038	1130	1247	1176	1396	1184	1121
Teas and Noisettes...	509	642	854	778	631	662	554
	1547	1772	2101	1954	2027	1846	1675

Owing to the early date (July 2nd) at which the Society's Metropolitan Show was this year held, and the season being again a backward one, the late flowering varieties are once more placed at a certain disadvantage in the analysis. The influence of the seasons has not, I find, so serious an effect on the relative positions occupied by the different varieties as might be supposed. No doubt the reason of this is that unless the summer prove exceptionally backward there are sure to be certain districts where even the later flowering Roses are in bloom on the day of "the National," and it is of course from these favoured spots in the south of England that on such occasions a large number of the blooms in the prize stands invariably come. Nevertheless, in order to obtain strictly comparable results it is very desirable that the early and late summers should be as equally balanced as possible.

The established varieties among the Hybrid Perpetuals which were more frequently shown this year than at any of the six previous Exhibitions were La France, Charles Lefebvre, Etienne Levet, Duke of Wellington, Le Havre, and Victor Hugo. Madame G. Luizet, A. K. Williams, Marquise de Castellane, Baroness Rothschild (one of the latest flowering of all the H.P.'s), Dupuy Jamain, Heinrich Schultheis, Fisher Holmes, and Comte Raimbaud were also considerably above the average. On the contrary, Marie Baumann, François Michelon, Captain Christy, Alfred Colomb, Marie Verdier, Comtesse d'Oxford, Xavier Olibo, Beauty of Waltham, Madame V. Verdier, and Marie Cointet were all very indifferently represented. Marie Baumann, usually regarded as the most certain exhibition flower of all the H.P.'s, was this year staged less frequently than at any of the six preceding Shows.

Although there are about seventy varieties on the list of Hybrid Perpetuals only four of them are less than six years old—viz., Mrs. J. Laing, Earl of Dufferin, Jeannie Dickson, and Gustave Piganeau. Of these Mrs. John Laing, which was sent out in 1887, takes a very high position, already standing at No. 3 in the analysis. Last year it was also at No. 3, but its claim to that position only rested on its record for a single show, whereas now it has been made dependent, and I think more correctly, upon the average

number of times it appeared in prize stands at the last three exhibitions. This year it was staged oftener than any other Rose whatever in the Show. It is light pink in colour, and if that light pink were only somewhat clearer in tint and its petals smoother at the edges than they generally come, it would be as nearly as possible a perfect H.P.; indeed, there are few varieties, old or new, possessing as many good qualities. Earl of Dufferin is another 1887 Rose, and, like Mrs. J. Laing, was also raised in the British Isles. This deep crimson variety has but slightly improved on its last year's position, rising only from No. 38 to No. 35. But then it must be remembered that it comes into flower rather late in the season, and consequently has been placed at a disadvantage the last two years. Gustave Piganeau, No. 46, introduced in 1889 and making its first appearance on the list this year, promises to be a high class exhibition Rose. On maiden plants it has proved itself very dependable, and should it turn out to be a sufficiently strong grower on cutbacks, which at present appears doubtful, it is likely at no distant date to rise to one of the leading positions in the analysis. Jeannie Dickson, No. 42, was first distributed in 1890, and, like Earl of Dufferin, was raised by Messrs. A. Dickson & Sons of Belfast. The flower is a very distinct shade of rose pink, and considering the short time this variety has been out has been well shown. It may be mentioned in passing that the same firm this year received the gold medal of the National Rose Society at Chester for a charming Rose of a very similar colour, entitled Mrs. W. J. Grant, which, judging from the blooms then exhibited, may be best described as an improved Jeannie Dickson. It will be interesting to watch the progress of this promising new Rose in future issues of our analysis. It may, however, be a year or two before we see Mrs. W. J. Grant again, as the stock of it is stated to have been purchased by an American.

The Teas, which at the last Exhibition distinguished themselves by appearing in more prize stands than at any other show of the series, were Souvenir d'Elise Vardon, Madame de Watteville, Madame Cusin, and Princess of Wales. Innocente Pirola, Maréchal Niel, Hon. Edith Gifford, and Anna Ollivier were also exceptionally well shown. As regards Maréchal Niel we have to go back to the 1887 Exhibition in order to find so many blooms of this variety at a National Show; in fact, this year there were only two other Teas or Noisettes as numerous shown. On the other hand, Souvenir d'un Ami and Madame Lambard were never before so poorly represented, while Marie Van Houtte and Jean Ducher were also very scantily exhibited.

Our list of Tea and Noisette Roses is gradually being extended, five fine varieties having been added to it during the last few years. First comes The Bride, a nearly white sport from Catherine Mermet, which we received from America in 1885, and which since last year has risen from No. 5 to No. 3 in the analysis, being bracketed with Comtesse de Nadaillac. This year it was staged more frequently than any other Tea Rose in the Show. It may here be mentioned that there is another sport from Catherine Mermet little grown at present, but which will no doubt before long also secure a good position on the list, and that is a deep pink one called Waban, also an importation from America. Madame Hoste (No. 26), distributed in 1887, is a lemon-yellow variety. For some reason it has scarcely improved on its last year's form, but nevertheless is such a good Rose that it is pretty certain sooner or later to take a higher place. To the year 1888 we are indebted for a remarkably fine new Tea, I need scarcely say that I refer to Ernest Metz. It is salmon rose in colour, and appears in the analysis for the first time at No. 21. The long-budded pale pink Cleopatra, sent out in 1889, rises from No. 31 in last year's list to No. 17 in the present one, and was surprisingly well shown at the last Exhibition. Souvenir de S. A. Prince, a white sport from Souvenir d'un Ami, like the variety from which it originated, was less frequently to be seen this year than at any previous show. Nevertheless it is a Rose which has wonderfully

improved in constitution during the last two years, and is sure to become a great favourite.

In days gone by nearly all our good Roses came to us from France, but a glance down the columns in the two tables giving the raisers' names and dates of introduction of the different varieties will at once show how few high class Roses we have

received from the Continent in recent years. During the twenty years ending 1881 the French raisers sent us no fewer than fifty-seven out of the Roses mentioned in the analysis, or on the average nearly three choice varieties a year. In the same period only twelve Roses sufficiently good to find places in the analysis were sent out by our own nurserymen, and among these there was not

HYBRID PERPETUALS.

Position in Present Analysis.	Average Number of Times Shown in the Seven Years.	Number of Times Shown in 1892.	Name.	Date of Introduction.	Raiser's or Introducer's Name.	Colour.
1	39.4	48	Madame Gabriel Luizet	1877	Liabaud	Light silvery pink.
2	38.6	49	La France	1867	Guillot	Silvery rose
3	37.7	50	Mrs. John Laing	1887	Bennett	Light pink
4	34.4	40	A. K. Williams	1877	Schwartz	Bright carmine red
5	32.0	35	Ulrich Brunner.....	1881	Levet	Cherry red
6	30.6	23	Marie Baumann	1863	Baumann	Soft carmine red
7	24.8	32	Charles Lefebvre	1861	Lacharme	Purplish crimson
8	24.4	19	François Michelon	1871	Levet	Deep rose
9	24.3	22	Merveille de Lyon	1882	Pernet.....	White
10	23.0	34	Etienne Levet	1871	Levet	Carmine rose
11	22.0	10	Captain Christy	1873	Lacharme	Delicate flesh
12	21.5	18	Alfred Colomb	1865	Lacharme	Bright carmine red
13	20.2	18	Lady Mary Fitzwilliam	1882	Bennett	Rosy flesh
14	19.3	22	Hcr Majesty	1885	Bennett	Pale rose
14	19.3	20	Louis Van Houtte	1869	Lacharme	Deep crimson maroon
15	19.0	19	Duke of Edinburgh	1868	Paul & Son.....	Scarlet crimson
15	19.0	16	Marie Finger.....	1873	Raimbaud	Light salmon rose
16	18.4	22	Marquise de Castellane	1869	Pernet.....	Clear cherry rose
17	17.2	8	Marie Rady	1865	Fontaine.....	Bright carmine red
18	17.1	14	Comtesse d'Oxford	1869	Guillot	Carmine violet
18	17.1	10	Marie Verdier	1877	E. Verdier	Pure rose
19	16.6	18	Prince Arthur	1875	Cant	Bright crimson
20	16.4	21	Baroness Rothschild	1867	Pernet.....	Light pink
21	15.4	22	Dupuy Jamain	1868	Jamain	Bright cerise
22	15.3	16	Horace Vernet	1866	Guillot	Purplish crimson, shaded
23	14.9	5	Xavier Olibo	1864	Lacharme	Dark velvety crimson
24	14.6	21	Ferdinand de Lesseps	1869	E. Verdier	Shaded crimson
25	14.5	20	Heinrich Schultheis.....	1882	Bennett	Delicate pink rose
26	14.4	13	Dr. Andry	1864	E. Verdier	Bright crimson
26	14.4	23	Duke of Wellington.....	1864	Granger	Vivid crimson, shaded
27	14.0	14	Camille Bernardin	1865	Gautreau	Light crimson
28	13.5	19	Général Jacqueminot	1853	Rousset	Bright scarlet crimson
29	13.4	14	E. Y. Teas	1874	E. Verdier	Bright carmine red
30	12.8	20	Le Havre	1871	Eude	Vermillion red
31	12.6	10	Duchesse de Vallombrosa	1875	Schwartz	Pale flesh
32	11.9	4	Beauty of Waltham.....	1862	W. Paul & Son	Rosy crimson
32	11.9	10	Duke of Teck.....	1880	Paul & Son.....	Crimson scarlet
32	11.9	16	Fisher Holmes	1865	E. Verdier	Shaded crimson scarlet
33	11.6	8	Abel Carrière.....	1875	E. Verdier	Crimson maroon
35	11.3	8	Earl of Dufferin	1887	A. Dickson & Son...	Deep crimson
35	11.3	10	Prince Camille de Roban	1861	E. Verdier	Crimson maroon
36	11.0	6	Pride of Waltham.....	1881	W. Paul & Son	Light salmon pink
37	10.9	9	Monsieur Noman	1866	Guillot	Pale rosy pink
38	10.2	4	Madame Victor Verdier	1863	E. Verdier	Clear light crimson
39	9.7	5	Violette Bouyer	1881	Lacharme	Tinted white
40	9.6	11	Viscountess Folkestone	1886	Bennett	Creamy white, shaded pink
41	9.3	7	Duchess of Bedford	1879	Postans	Light scarlet crimson
41	9.3	7	Sénateur Vaisse	1859	Guillot	Bright crimson
41	9.3	7	Star of Waltham	1875	W. Paul & Son	Carmine violet
42	9.0	9	Jeannie Dickson	1890	A. Dickson & Son...	Bright rosy pink
43	8.8	9	Countess of Rosebery	1879	Postans	Carmine rose
44	8.7	8	Marguerite de St. Amand	1864	Sansal	Clear rosy flesh
45	8.3	3	Marie Cointet	1872	Guillot	Light pink
46	8.0	8	Gustave Piganeau.....	1889	Pernet & Ducher ...	Carmine lake
47	7.8	11	Victor Hugo	1884	Schwartz	Bright crimson, shaded
48	7.7	7	Charles Darwin.....	1879	Laxton	Brownish crimson
49	7.5	9	Comte Raimbaud	1867	Rolland	Clear crimson
49	7.5	3	Reynolds Holc	1873	Paul & Son.....	Deep scarlet maroon
50	7.0	2	Duchesse de Morny	1863	E. Verdier	Silvery rose
50	7.0	5	Madame Eugène Verdier	1878	E. Verdier	Light silvery rose
51	6.7	11	Suzanne M. Rodocanachi	1883	Lévêque	Bright silvery rose
52	6.5	8	Madame Isaac Perèire (B)	1880	Margottin, fils	Carmine red
53	6.2	3	Auguste Rigotard.....	1871	Schwartz	Cherry red
54	6.1	4	Madame H. Jamain.....	1871	Jamain	Pale flesh
55	5.9	4	Magna Charta	1876	W. Paul & Son	Bright pink carmine
56	5.8	3	Queen of Queens	1883	W. Paul & Son	Pale blush pink
57	5.3	7	Victor Verdier	1859	Lacharme	Clear cherry rose
58	5.1	9	Dr. Sewell	1879	Turner	Violet crimson
59	5.0	5	Mrs. Baker	1876	Turner	Bright cherry rose

a single Tea. Now, if we compare this record with a similar one for the last ten years the contrast will be seen to be very great. Of the nineteen varieties which bear a later date than 1881 only seven were received from France, thus giving an average of less than one Rose a year. Of these seven French Roses three are Hybrid Perpetuals:—Merveille de Lyon (1882), Suzanne Marie Rodocanachi (1883), and Gustave Piganeau (1889), while four are Teas—Hon. Edith Gifford (1882), Madame de Watteville (1883), Madame Hoste (1887), and Ernest Metz (1888). Moreover, all the four Teas were sent out by the same raiser, Guillot. Of the remaining twelve varieties, nine were raised in England, two in Ireland, and one in America, eight of them being H.P.'s, and four Teas—viz., 1882, Princess of Wales, Lady Mary Fitzwilliam, and Heinrich Schultheis; 1883, Queen of Queens; 1885, Her Majesty and The Bride; 1886, Viscountess Folkestone; 1887, Mrs. John Laing and Earl of Dufferin; 1889, Cleopatra and Souvenir de S. A. Prince; 1890, Jeannie Dickson.

To those kind friends who assisted me in taking down the names of the Roses in the prize stands at the last Exhibition my thanks are again due.

It is not every exhibition Rose that can be recommended for ordinary garden cultivation, but the following may be depended upon as likely to grow and flower well in most localities. No time should now be lost in ordering the plants from the nurseries. They will then arrive in November, when they should be at once planted,

as it is very important to get them in the ground as early as possible. Plant firmly, and it is a wise precaution to at once secure each plant to a firm stake.

HYBRID PERPETUALS.—*Light coloured varieties.*—Madame Gabriel Luizet, La France, Mrs. John Laing, Merveille de Lyon, Captain Christy, Marie Finger, Baroness Rothschild, Viscountess Folkestone, Grace Darling, Jeannie Dickson, and Augustine Guinnosseau. *Medium Reds.*—Ulrich Brunner, François Michelin, Marquise de Castellane, Comtesse d'Oxford, Marie Verdier, Dupuy Jamain, Heinrich Schultheis, and Camille Bernardin. *Reds.*—A. K. Williams, Marie Baumann, Alfred Colomb, Duke of Edinburgh, Ferdinand de Lesseps, Dr. Andry, E. Y. Teas, Sénateur Vaisse, Victor Hugo, Earl of Pembroke. *Dark varieties.*—Charles Lefebvre, Louis Van Houtte, Prince Arthur, Duke of Wellington, Prince Camille de Rohan, Duke of Connaught, and Sir Rowland Hill.

TEAS AND NOISETTES.—Innocente Pirola, Souvenir d'un Ami, Marie Van Houtte, Caroline Kuster (N.), Honourable Edith Gifford, Francisca Krüger, Anna Ollivier, Madame Lambard, Rubens, Souvenir de S. A. Prince, Madame Hoste, Souvenir de Thérèse Levet, Jules Finger, Ernest Metz, William Allen Richardson (N), and L'Idéal (N.). The two last named are not exhibition Roses, but should be in every collection however small.

BOURBON.—Souvenir de la Malmaison, and Mrs. Paul.—E. M. Berkhamsted.

TEAS OR NOISETTES.

Position in Present Analysis.	Average Number of Times Shown in the Seven Years.	Number of Times Shown in 1892.	Name.	Date of Introduction.	Raiser's or Introducee's Name.	Colour.
1	39.7	40	Catherine Mermet	1869	Guillot	Light rosy flesh
2	34.4	38	Innocente Pirola	1878	Madame Ducher ...	White, slightly shaded
3	33.5	33	Comtesse de Nadaillae.....	1871	Guillot	Rosy flesh and apricot
3	33.5	45	The Bride	1885	May.....	White, tinged lemon
4	31.1	41	Souvenir d'Elise Vardon.....	1854	Marest	Yellowish rosy cream
5	30.5	20	Souvenir d'un Ami	1846	Belot-Defougère ...	Pale rose
6	30.0	30	Niphetos	1844	Bougère	White
7	29.6	20	Marie Van Houtte	1871	Ducher	Yellowish white, tinted rose
8	29.0	41	Maréchal Niel (N.)	1864	Pradel.....	Deep golden yellow
9	28.0	25	Caroline Kuster (N.)	1872	Pernet.....	Lemon yellow
10	24.6	34	Madame de Watteville.....	1883	Guillot	Cream, bordered rose
11	23.5	19	Jean Ducher	1874	Madame Ducher ...	Salmon yellow, shaded peach
12	23.3	32	Madame Cusin	1881	Guillot	Violet rose
13	21.6	28	Honourable Edith Gifford	1882	Guillot	Creamy white, shaded flesh
14	18.1	15	Madame Bravy	1848	Guillot	White, flushed pale pink
15	17.8	21	Anna Ollivier	1872	Ducher	Pale rosy flesh, shaded buff
15	17.8	18	Francisca Krüger	1879	Nabonnand	Coppery yellow, shaded rose
16	15.3	1	Madame Lambard.....	1877	Lacharme	Salmon, shaded rose
17	15.0	15	Cleopatra	1889	Bennett	Pale pink, edged rose
18	14.9	8	Rubens	1859	Robert	Creamy white
19	14.8	25	Princess of Wales	1882	Bennett	Pale rosy yellow
20	14.7	8	Etoile de Lyon	1881	Guillot	Bright sulphur yellow
21	12.0	10	Ernest Metz	1888	Guillot	Salmon, tinted rose
22	11.3	9	Souvenir de Paul Neyron ...	1871	Levet	Creamy white, tinted rose
23	9.9	2	Madame Willermoz	1845	Lacharme	Creamy white
24	9.0	5	Souvenir de S. A. Prince	1889	Prince	Pure white
25	8.4	2	La Boule d'Or	1860	Margottin	Golden yellow
26	7.9	8	Madame Hos'e	1887	Guillot	Pale lemon yellow
27	7.2	1	Devoniensis	1838	Foster	Creamy white
28	6.7	2	Jules Finger	1879	Madame Ducher ...	Bronzy rose
28	6.7	4	Madame H. Jamain	1869	Guillot	White, shaded yellow
29	5.7	1	Madame Margottin	1866	Guillot	Citron yellow

HOW TO IMPROVE OLD VINES.

VINES possess such marvellous recuperative powers that it is somewhat difficult to determine when they are worn out. After they have reached an apparently worthless stage it is surprising how quickly they may be brought back to health, vigour, and fruitfulness again. I do not advocate the renovation of old Vines in preference to planting young ones in cases where the loss of a crop for one or two seasons is of no material consequence, and when labour and expense are matters of secondary consideration, provided they lead to the production of superior Grapes. There are, however, numerous instances in which Vines are in a very

unsatisfactory state. This ought not to be allowed to continue without some effort being made to improve them. With proper treatment vast improvement may be effected in one season without the loss of a crop, and when once they are brought back to a healthy state old Vines may be depended upon to produce good crops of Grapes annually so long as they are well cared for; in fact, it is no unusual occurrence to find old Vines under the charge of a good cultivator bearing Grapes immensely superior to those produced on young Vines by less skilful growers.

There is no better time than the present for taking in hand the renovation of a Vine border in which early forced Vines are growing. The laterals will have been shortened back to five or

six leaves in order to plump up the remaining buds. The few leaves retained will not be seriously affected by the necessary disturbance of the roots, and will, moreover, when the work is completed, help to incite root action before falling. I have on many occasions had to deal with Vines after they have been completely or partially lifted, and from their subsequent behaviour have learnt many useful lessons. The result of my experience leads me to advise all who contemplate the overhauling of Vine borders, especially those in which early Vines are growing, not to attempt too much the first year, or the intended remedy may prove worse than the evil. If the roots are partly in an inside and partly in an outside border, the ordeal of lifting is sometimes not so trying for the Vines, because they are chiefly supported by the roots in the undisturbed border till young ones are formed in the fresh soil. Unfortunately, however, it is seldom that both borders are well furnished with roots, which generally confine themselves almost entirely to one or the other. Be content, therefore, with lifting those in the outside borders the first season.

The first thing to be done is to shade the roof of the vinery with mats or canvas; next dig a hole near one corner of the border right down to the drainage to ascertain the condition of it. In nine cases out of ten, if the border was well made, this will be in good working order, although the soil above may be close and sticky. This state of affairs is caused by too deep a border, by the use of too much animal or vegetable matter in its composition, and by the absence of a sufficient quantity of such porous and sweetening materials as lime rubble, charcoal, or bones. The roots found in a border which has lapsed into this condition are invariably long and destitute of fibre. To take out the whole body of soil down to the drainage, and then force the Vines the same season, would be to court failure; in fact, I have seen many old Vines ruined by resorting to such extreme measures, and I have had charge of other Vines which have been greatly improved by partial lifting, although they were forced hard enough the same season to produce ripe Grapes the first week in May.

The practice I advocate is partial lifting. Carefully remove the soil with a fork to the depth of 12 or 18 inches. This is best done by taking out a trench at the extremity of the border opposite the vinery. As the work proceeds all roots found should be preserved uninjured as much as possible, and be tied to stakes driven into the border. This will keep them out of the way of the operator as the soil is forked out from among them and wheeled away. Moreover, it enables the roots to be kept moist and fresh by giving an occasional syringing, and keeping them covered with mats. In all probability the majority of the roots found will be deficient in healthy fibre, the principal ones being deep down in the soil beneath. Having proceeded thus far, next mark off from 5 to 6 feet from the front wall of the vinery and drive a strong stake into the border at each end, then loosen the surface of the soil with a fork the whole length of the border, keeping the same width as the stakes indicate. When the forking is completed give a good dressing of soot, and place on it a layer of lime rubbish an inch or so in depth. A layer of prepared soil should be spread upon this, and if dry be trodden firmly. Spread about half the roots evenly over this surface, cutting notches with a sharp knife at intervals of 6 inches to induce them to send out fibrous roots at those points. Another layer of soil should next be placed over these roots.

As the work proceeds a wall of turf, with the grassy side placed downwards, should be built up to form a continuous straight line between the two stakes at each end of the border. A trench must next be cut along the entire length of the border, at the boundary; this ought to be opened down to the drainage, cutting off all roots which are met with. If the border has not been confined within brick walls, the probability is that many strong roots will have extended beyond the border, the severance of which will cause a considerable check to the Vines. In such cases it is not wise to disturb the roots any further at present. They should, however, be for the future confined to the border by building a wall along the trench already formed or by filling it up with concrete. All that remains to be done in the present case is to remove a little more soil from the lower level of the border—between the turf wall and the outer one—till roots are found, when a few inches of fresh soil should be added, and the whole surface of the border covered with 6 inches of half-decayed leaves. If when taking out the trench along the front of the border few, if any, roots are found, the soil may be removed quite up to the strip of border already completed, and marked off by stakes, the roots found as the work proceeds being, of course, carefully preserved. The drainage should then be cleared, and if found defective re-arranged. Use some freshly broken bricks and old mortar rubbish to finish off with, taking care to cover this with brushwood, bracken, or straw before fresh soil is added. The

roots should then be spread out in layers in the fresh soil, taking care to keep the bulk of them within 3 inches of the surface.

When completed the border will be in two sections, the one nearest the house being 12 or 18 inches higher than the other containing the surface roots, which previously extended the entire width of the border, while those roots in the outer half of the border which were deep down in the soil are brought within the quickening influence of fresh air and sunshine without being subjected to the trying ordeal of complete lifting, which in many cases would be disastrous to early forced Vines. If the Vines are allowed to make plenty of growth during the growing season after a couple of years the section of border nearest the house will be filled with healthy fibrous roots, for in addition to the roots sent out from the notched portions of the old roots another set will spring from the main stem of the Vines. These will perform the best future work, and should therefore be encouraged by filling up the lower section of the border with fresh soil, through which the young surface roots will steadily permeate, and if these are kept active and healthy by top-dressing and good treatment Grapes of high quality will be the result.

Vines in later houses may be completely lifted with more prospect of success, but even in their case better results may often be obtained by working on the lines above indicated. Of course in all cases the work of lifting should not be begun till after the Grapes are cut, and if the foliage is still on the Vines shading and syringing must be resorted to to keep the leaves fresh as long as possible. A good compost to use for the purpose is one consisting of six loads of good turfy loam, one of horse droppings, one of burnt refuse, half a load of lime rubble, 1 cwt. of half-inch bones and 3 bushels of soot, the whole to be thoroughly mixed before using.—H. DUNKIN.

THE PROTECTION OF PLANTS.

VARIOUS means are employed by Nature for the dissemination of plants over the surface of the earth and for their preservation. The natural forces, water, wind, animals, and even man are the most active agents of this dissemination, and many interesting species have been introduced into certain countries by their influence. If some plants appear in places where they had never been seen before there are others on the contrary which disappear from a locality, a country, or entire continent. Without discussing the subject of the great changes made in the flora of a country in the course of time I wish to call attention to certain plants, the approaching disappearance of which is anticipated and lamented by botanists, and at the same time I shall explain the measures taken in certain countries to protect those species which are most in danger.

Some will no doubt smile when I talk about protection. "Nature," it will perhaps be said, "does not require your intervention; it maintains itself, and we have only to preserve the greatest neutrality with regard to its works." This is true; but the neutrality must be absolute, that is to say it must be respected by all. From the instant of its being violated by some who strip the earth of its most beautiful ornament it is a duty to adopt measures for placing a check on these depredations. Certain kinds of animals formerly abundant, like the bison of America, the whale, the elephant, and lion, are rapidly decreasing, and they will probably disappear entirely. Some plants are menaced with a similar fate.

Psadia rotundifolia was at one time very abundant in the island of St. Helena, and in spite of its inelegant form it is of special interest, as it belongs to the great family of Compositæ, most known representatives of which are herbaceous plants. Here we have a tree of 6 to 7 yards in height with heavy naked branches bearing small Aster-like flowers. Man and goats have played such havoc with it that the numerous forests which covered the island have vanished, and this vegetable species would now be reduced to this single individual were it not for the fact that some have been planted and cultivated at Kew. One of the most graceful species of *Eucalyptus*, *E. alpina*, formerly abundant on Mount Williams in Australia, would now be unknown had not Baron Von Mueller of Melbourne planted a specimen in the Botanical Gardens. It is gradually being propagated by seeds and in other ways.

It will perhaps be said that this suppression of certain trees is an exception. True, it is rarely that man, in spite of his activity, is able to destroy or annihilate a species of plant. But we know the effects produced by the systematic clearing of woods. What has become of those immense forests which formerly covered Germany so thickly that a squirrel could travel from Strasbourg to Königsberg leaping from branch to branch? It is but three years ago, says a traveller, that it rained every day at Para; the vegetation was of extraordinary luxuriance. Since the population

of Brazil has increased the virgin forests have been cut down or burnt, and the cool shades have given place to a sterile and barren desert. Now months pass without a drop of rain falling. In France, on the Alps of Dauphiné, we find the slopes dry and arid; the rock appears everywhere. The environs of Gap lost their life with their forests. Have the Swiss anything more precious than the Arole (*Pinus cembra*, L.), the most majestic of forest trees, and which grows on the highest slopes? This species formerly existed in large forests; at the present day only some remnants are to be found.

A terrible consequence of this clearing, this stripping of mountain slopes, is the frequency of inundations. Forests exercise a salutary influence from the point of view of meteorology. At the time of heavy rains not only do the tops of the trees play the rôle of umbrellas, but the soil of the forest acts like a sponge, absorbing the water, and allowing it to run away gradually without endangering the lower parts. In the countries where the timber has been cleared away, on the contrary, the waters at once become formidable. At the Universal Exhibition, in the Forest Pavilion, the schemes presented for the turning of torrents comprise at the same time the replanting of the slopes at the foot of which the waters roll.

When I speak about the protection of plants I mean the humble flowers of our woods just as much as the large trees which shelter them under their branches. The savant is interested in not letting any vegetable species disappear; for him the loss of a species is equivalent to the disappearance of an interesting page of history. Clearings, works of public utility, the extension of the culture of useful plants, the draining of marshes cause changes in the local flora sometimes of a marked description, destroying rare plants, and causing the disappearance, in some localities, of interesting species. For the single department of Somme, M. Gonse recently called attention in the "Bulletin de la Société Linnéenne du Nord de la France" to the fact that some fifty species had disappeared or were tending to disappear. The species of plants most menaced are those which are sought by amateurs or horticulturists on account of their gracefulness, the brightness of their flowers, or merely their rarity. Let us add to these spoilers some botanists who do not even respect the rarest plants, and are in the habit of sacking everything wherever they pass.

The dwarf Palm *Chamærops humilis*, L., the only one of its family a native of Europe, was formerly in the environs of Nice. In 1841 M. Cosson, directed by M. Risso, a Nice botanist, gathered leaves on the last stalk, nothing but leaves, which have been preserved in his herbarium. This plant, which had been spared by all the inclemencies of the weather, which even resisted the effects in 1820 of a nocturnal cold ever memorable for the south of France (10° C.), and which killed in one night all the Orange trees of the Mediterranean coast, was destroyed by the Vandalism of foreign botanists, who extirpated even the last representative of the Palm.

Spiranthes Romanzoviana is a very interesting plant. Its white flower exhales an exquisite perfume. Its only station known in Europe is a small meadow on the borders of Bantry Bay, in the south of Ireland. After numerous visits from botanists, the complete disappearance of this Orchid has recently been remarked. —V. BRANDICOURT, *Librarian of the Société Linnéenne of the North of France.*

(To be continued.)



ODONTOGLOSSUM GRANDE.

THIS magnificent cool house Orchid usually flowers during October and November, and the brightness of its colouring enlivens the collection at a dull period of the year and commands attention. The pseudo-bulbs are distinct from other *Odontoglossums*, being ovoid, 3 inches long, and of a peculiar green colour. They are surmounted by a pair of broad leaves, 4 inches long, striated. The scapes are produced from the base of the bulb, and bear three to six flowers, each about 6 inches across. The sepals are oblong-lanceolate, yellow, with bars and blotches of reddish brown; petals oblong, broader than the sepals, lower half reddish brown edged with yellow, upper half bright yellow; lip roundish, very pale yellow, with a few red spots and blotches. The flowers last in perfection from three to four weeks. *Od. grande* was discovered in Guatemala in 1839, and flowered in England for the first time in the Duke of Bedford's collection at Woburn in 1840 ("Bot. Mag.,"

pt. 3955). Although it may be grown and flowered in the cool house, yet this *Odontoglossum* requires a drier and slightly warmer temperature during its resting period; after growth has ceased hardly any water will be needed until it commences again. No collection should be without this, the finest and certainly the most showy species of the genus.—C. K.

PERISTERIA LINDENI.

PERISTERIA LINDENI (see fig. 41) is a new species introduced a few months ago by L'Horticulture Internationale, Parc Leopold,



FIG. 41.—PERISTERIA LINDENI.

Brussels, and which flowered in spring at their establishment. It is distinguished by a new and very attractive colour. The flowers, which are globular in form, are abundantly spotted and washed with dull purple on a clear greenish yellow ground. They are produced to the number of five to seven on an erect stem, which rises very little above the bulbs. This new species, when exhibited at the April meeting of L'Orchidéeenne at Brussels, obtained a diplôme d'honneur of the first class unanimously. It forms plate 328 of *Lindenia*.—MAX GARNIER (in "Le Journal des Orchidées").

CÆLOGYNE OCELLATA.

INTRODUCED in 1822 from Sylhet by Mr. Loddiges, this charming Orchid holds its own as an intermediate or cool house plant. Although usually flowering early in the spring it often produces blooms about this time of the year. Grown in baskets or pans and suspended near the glass in the intermediate house or the warmest end of a cool structure it succeeds, and when flowering looks exceedingly pretty. The pseudo-bulbs are ovate, purplish and wrinkled, surmounted by two leaves each about 6 inches long, deep green and leathery. The erect racemes are produced on short peduncles from the apex of the bulbs and carry from three to six flowers. The flowers are starry in appearance; the sepals and petals are pure white, spreading, oblong; the lip is joined to the column and is three-lobed; the side lobes are erect and obtuse, the central one elongated, white tinged with yellow and veined with orange and brown. At the base of the middle lobe and on the inside of the lateral ones are several large orange spots; three raised wavy lines

run longitudinally down the centre of the lip. The column is white tipped with yellow.—C. K.

CYPRIPEDIUM HARRISIANUM.

THIS fine old plant is now flowering in various Orchid collections, and is a great favourite because of its strong constitution and its free blooming quality, the flowers when cut lasting a considerable time in water. *C. Harrisianum* is interesting as being the first hybrid "Lady Slipper" ever produced by artificial cross fertilisation. It was raised by Mr. Dominy at Messrs. J. Veitch & Sons' nursery at Chelsea in 1864 and flowered for the first time about five years later; it is a hybrid between *C. villosum* and *C. barbatum*. The leaves, which are about 8 or 10 inches long, are blotched with dark and pale green. The dorsal sepal is deep purple with a white margin, black veinings, lower sepal green; petals, upper halves (horizontally) purplish brown with dark veins, lower halves greenish yellow; the lip is dull, purplish, with greenish front. *C. Harrisianum* requires ordinary care; it grows and flowers freely, and succeeds either in an intermediate or stove temperature.—C. K.

CYPRIPEDIUM SAUNDERSIANUM.

THIS, one of the rarest and most distinct hybrid *Cypripediums*, is now in flower at Mr. William Bull's establishment. It is the plant purchased of Mr. Lee of Leatherhead for 300 guineas, the price conveying in some measure an idea of its choice and remarkable character.

DENDROBIUM PHALÆNOPSIS.

THIS Orchid is not only the best of the Australian *Dendrobies*, but it is one of the very best of the several hundred species known.

For its cultivation it requires the hottest and moistest stove, and it grows best when placed in a position close to the roof-glass. Messrs. Sander & Co. recommend for it the treatment of the Pine stove, or such as suits *Crotons* and *Ixoras*. The Kew plants are grown in baskets, and are planted in peat fibre and sphagnum. They are liberally watered and syringed when in growth, and are kept moderately dry after the growth is matured. It may be stated in proof of the good nature of this *Dendrobium* under cultivation that the plant sent to Kew by Mr. Forbes ten years ago is still in good health, and has flowered this year.—W. WATSON (in "Garden and Forest").

DISCUSSION ON APPLES.

HOLLANDBURY.

I SEND a sample of Apples for your inspection picked from a tree in a grass orchard about a fortnight ago, the tree bearing a heavy crop. Two years ago I gathered an Apple from the same tree weighing 17 ozs. It is a good cooker, and the tree is a good grower. The fruit keeps until November. I should like to hear if you know of any varieties similar to it, and shall look in the *Journal* for any remarks you may publish relating to so excellent an Apple.—F. WOOLLARD.

[The Apples received appear to be very fine specimens of the Hollandbury, known also as Kirk's Scarlet Admirable, Hallingbury, Horsley Pippin, and Hawberry Pippin. It is described in the *Fruit Manual* as very large, skin deep yellow tinged with green on the shaded side, but bright deep scarlet where exposed to the sun, generally extending over the whole surface. A beautiful and showy Apple for culinary purposes; in use from October to Christmas. To that description Dr. Hogg adds the following note:—

"I have not been able to trace the history of this handsome Apple beyond the close of last century. It is not mentioned in the copious list of Miller & Sweet, of Bristol, in 1790, nor in any of the nursery workings of the Brompton Park Nursery, lists of which are in my possession as far back as 1750. The first record of it I find is in the Forsyth MSS., where, under the name of Kirk's Scarlet Admirable, he seems to have received it in 1799, and again in 1801, from Ronalds, of Brentford, as Hallingbury, but in his *Treatise on Fruit Trees* it is called Hollingbury."

The Hollandbury makes an excellent orchard standard, and also succeeds well on the Paradise stock.]

NOTES FROM NEWBURY.

I WAS pleased to see Mr. Bunyard's notes on Lady Sudeley, as I have several trees of it that at present have failed to bear fruit, although planted under the same conditions as other varieties that have fruited several seasons. There is little doubt, as your correspondent states, that some varieties have a partiality for a particular soil. With me the old Keswick is one of the best early Apples, but Lord Suffield will not thrive either as a standard or dwarf, being subject to canker. Our best crop of kitchen Apples this

season are Keswick, Ecklinville, Small's Admirable, Winter Hawthornden, Striped Beefing, and Lane's Prince Albert. Dessert.—Worcester Pearmain, King of Pippins, and Blenheim Pippin, which generally does well in this district. Some young trees of Scarlet Nonpareil and Baumann's Red Reinette also have good crops of well coloured fruit.—J. HOWARD, *Benham*.

KESWICK CODLIN.

I HAVE on various occasions mentioned this variety in notes on the fruit crop as being a sure cropper, and therefore well worthy of extended culture. During the past twenty-one years an espalier-trained tree of Keswick Codlin has annually borne a full crop of good fruit. Our soil is a light loam of an average depth of 2 feet, and rests on a gravelly subsoil.—H. W. W.

WORCESTER PEARMAIN.

THIS very handsome, highly coloured, and good quality dessert Apple is not met with in gardens so often as it undoubtedly deserves to be. I believe this excellent variety, like Keswick Codlin, does best in a somewhat light soil resting on a substratum of gravel. An espalier of Worcester Pearmain bore a fine crop of fruit here this year, which, owing to their handsome conical shape and beautiful colour, commanded the admiration of all who saw them; so much so, indeed, that I was loth to gather them, and therefore allowed the fruit to drop into the net with which it was necessary to protect them from the ravages of the birds.—W. H. W.

DOMINO.

WHEN on a large Kentish fruit farm towards the end of July I was much struck with the splendid appearance of a quarter of Domino. Standards planted five years ago were carrying 2½ to 3 bushels of fine fruit, which, sold at 6s. per bushel, would be 15s. to 18s. per tree. Considering, however, that even as early as Cherry gathering times quantities of good size fruit could be picked, this price would in all probability be exceeded. The fruit is borne in heavy clusters, and the thinnings gathered early and sold at a remunerative price would tend to the better development of the general crop. I particularly call attention to the value of this excellent Apple for planting in exposed positions. There are few high-class culinary varieties that will retain perfect health and fruitfulness under such trying conditions as Domino. Its tendency to come into early and profitable bearing on the free stock points to the fact that it would be valuable on the Paradise, where a hardy variety is wanted. I have also seen it in Nottinghamshire, where it is grown somewhat extensively, and its character for hardiness, sturdy growth and fruitfulness, is similar to that which it is earning in Kent. This is worth bearing in mind.—W. P. W.

STIRLING CASTLE.

IF I were asked to name one cooking Apple for a small garden I do not see how I could ignore the several good points which this variety possesses. As far as I know it only has one fault—bearing too freely—so much so that but little growth is made. Fortunately, however, the remedy is in our own hands—severely thinning the fruit. In the early part of November, 1890, I planted several trees of this sort, one especially in the kitchen garden. No particular pains were taken with it, beyond selecting a suitable day and carefully mulching the surface with some light half-decayed manure. Last year the tree carried nine handsome fruits, and this season the total weight of fruit borne is 14½ lbs., everyone a model in itself as to form, colour, and clearness of skin. Not a sign of speck or rust is apparent in one of the forty-two Apples borne. The tree has made growths 1 foot long, which is rather good for this variety. The colour of the leaves is a dense green; indeed the tree is the picture of health in spite of the heavy crop of fruit allowed to mature. Amateurs would do well to plant this Apple where space is limited. No sort that I know requires less attention in pruning and summer pinching of the shoots, the heavy crop of fruit invariably borne does all that is necessary in this direction. It is reported that when the trees are worked upon the Paradise stock they do not live many years, but quickly exhaust themselves. Be this as it may, when excellent trees can be bought for 2s. each it matters little. The outlay is quickly recouped.—E. M.

PRUNING APPLE TREES.

It was formerly a hard and fast rule not to commence the pruning of hardy fruit trees until after the leaves had fallen, but now it is considered to be the right thing to prune early, sometimes before the fruit is gathered. Why wait until the leaves have fallen, I would ask, when the work can be done so much more comfortably and with so much greater judgment before that period? It is much easier to judge which branches require removal or to determine where there is sufficient space for additional shoots to be

left from the current year's growth, when the leaves are still on the trees. October is a good time to prune the trees; indeed, I have already gone over many of ours. The main point to impress upon beginners in pruning is the absolute necessity of providing abundance of light and air between the branches; overcrowding them is the commonest cause of non-success. In high and moderately dry districts I am of opinion that much more regular crops of Apples would be annually produced if greater attention were paid to keeping the branches thinner than at present, and to following a regular system of summer pinching of the shoots. By this means the branches and buds in the embryo state are more matured and the flowers in a better condition to become fertilised, also to withstand light frosts. By following this method of pruning and summer pinching closely many of our trees have given us a full crop of fruit for the last ten years without fail. I am an absolute believer in the extension method of training Apple trees, of course where space will permit, as against the practice of close pruning of the branches and shortening of the roots with a view to the restriction of the trees generally. For this reason I regard a loose form of bush tree as being infinitely better than a formally trained pyramid tree, both from its giving more and better fruit and as requiring less attention in the matter of labour in training.

In pruning trees that were planted one or two years ago some attention must be paid to the manner in which they were pruned the same season as they were planted, as this will guide the future manipulation of the branches. I am a staunch supporter of pruning the trees the same season that they are planted, although I know that some persons prefer to let them alone for a year and then cut them back. I think this is a waste of a season, when equal growth can be had the first season by pruning the trees judiciously—i.e., cutting the shoots made the previous year to within about six eyes of the base, varying a little according to the manner of growth of each variety, some sorts being longer jointed than others. The second year I prune to within, say, 1 foot of the previous cut; sometimes more is left if plenty of space is available for the tree. By shortening the shoots back in this manner well-formed trees are obtained right from the base. It is an advantage to take the point out of any shoot over 9 inches long when dealing with trees planted less than five years; such shoots are thus induced to break more regularly into growth from all the eyes than when left untopped, the flow of sap is diverted from the leader, and if all the shoots are not required (as they will not be) fruit spurs may be encouraged to form by pinching the young growths during summer. Very often vigorous shoots will fail to send out side growths at all if left intact, all the sap flying to the point of the shoot and thus leaving it quite bare of spurs or side growths. This is neither desirable nor necessary considering that topping the shoot at the autumn pruning would obviate the defect. Timely attention to these apparently small details in pruning will render young trees not only a pleasure to look upon but a greater source of profit through the increased production of fruit.

In dealing with, say, two-year-planted standard trees, which were cut hard in the first season and are now furnished with shoots 2 feet long, or in some cases more, half of the shoot—for instance, the growth made last year—will now be bristling with fruit buds of this season's formation for next year. I do not advise these shoots to be interfered with at all if the last year's growth gives promise of forming buds and shoots, but if there is not sufficient evidence for the future furnishing of the tree I advise the point of the shoots to be taken out as directed. Next season these trees will bear fruit if allowed to do so, and if the weather at blossoming time is favourable, and the weight of the fruit on the long and, in some cases, upright shoots will induce the branches to form shapely heads by bending down the points of each. It is a mistake to crowd the branches of standard trees at any time, and especially the first two or three years. Each shoot should be allowed sufficient space to stand alone with a view to its maturity and the due formation of the future tree.

In pruning bush trees that have been established fully ten years I do not hold with the hard cutting-in of the points of the leading shoots if they are strong and inclined to make vigorous growth, and space is available for extension. I prefer to allow them to extend, simply removing the point to hasten bud and side shoot formation. After a couple of years of this treatment the length of the leading shoots will be considerably lessened, fruitfulness of otherwise bare branches will follow, and the necessity for root-pruning will diminish, providing, of course, that the roots are in a healthy condition and near to the surface. Especially does this method of pruning agree with Cox's Orange Pippin, Blenheim Orange, Warner's King, Ecklinville, and Mère de Ménage, all of which, with the exception of Blenheim, can be relied upon for an annual full crop of fruit. Abundance of space should be provided for the branches by a free removal of the current year's shoots, first by summer pinching to about three or four eyes, then cutting back

at the present time to one or two, so that a free admission of light and air to the inside of the tree is insured at all times.—E. MOLYNEUX.

A WOMAN'S CHOICE.

DURING the course of a conversation on Apples recently the wife of a nurseryman and fruit grower mentioned the advice she had given to her husband for extending his plantations. It was to this effect:—"Plant as many trees as you like, but the three sorts that always bear and are always good are Keswick Codlin, Ecklinville, and Alfriston. Those are the Apples for me, and I can do very well without any others." This is not a very bad choice. Who can name three more useful varieties?—A GARDENER.

DOCTORS DIFFERING.

THE notes given in the last number on different sorts of Apples seem likely to be useful, but "doctors differ" apparently on a most valuable point for those intending to plant—viz., what varieties will be best suited to their soils. Mr. Brotherston says Lord Suffield does not succeed on a light soil, while Mr. Bunyard, whose authority is second to none, says in his catalogue that it "does best on a light loamy or stony soil," and, I may add, that is a fair description of my land, and it does well with me. Again, the former says, "Cellini and Stirling Castle for heavy soils only," while Mr. Bunyard says of Cellini, "should not be planted in cold soils." I was thinking of trying Cellini, and should be inclined to trust Mr. Bunyard. Keswick Codlin does not do well with me, being poor in growth and in fruit, and Wellington, though growing well, gives me small samples. Lord Grosvenor is very good, and Alfriston and New Hawthornden give me nice crops of good Apples. Reinette de Canada has never failed to give me a crop of handsome and useful fruit. Lane's Prince Albert crops well, but I expect it likes a better soil, as the fruit is not very large, but even then the wood is so weak that it requires support. Of that excellent dessert Apple, American Mother, I have this year the best crop and the finest samples that my tree has ever borne. We had only a fair show of bloom, but the flowering season was so fine and favourable, without any frost, that I was much disappointed at the very small proportion of blossoms which set. It looked like being a bad year for Apples, but they have stayed on and filled out well, and in my own garden, and generally in this part of Suffolk, we have quite an average crop.—W. R. RAILLEM.

THE MARGUERITE CARNATIONS.

IN last week's *Journal of Horticulture* you inserted a short paragraph written by me in reference to some hybridised seedlings which are now in flower at the Spark Hill Nurseries, Birmingham. They are a marvellous improvement on the Marguerites, and show clearly that a great future is before this new race of Carnations, when our practical florists take them in hand. They are also exciting attention, as may be seen by brief notices in the gardening periodicals, and in one or two instances inquiries made as to their origin. They were introduced from Germany, and in a catalogue now before me from a leading seed-grower there, are to be found under the heading of *Dianthus*, as *D. caryophyllus nanus fl.-pl.* *Margueritæ* (the new dwarf double Margaret Carnation). The plant is thus described: "An excellent annual Carnation, height about 18 to 22 inches. Sown early in the spring the plants will flower from July until winter, which renders this new Carnation very valuable for cut flowers as well as for market plants, and the play of colours consists of from fifteen to twenty various shades."

This description conveys a good idea of their qualities and habits, but I could not look upon them with much favour except as attractive border plants, because of their very serrated edges and want of form and texture or stoutness in the flowers. But it became a question of how far any improvement could be effected by crossing with our fine exhibition flowers, and Mr. C. H. Herbert, who is rapidly rising to the front as a cultivator and exhibitor of Carnations and Picotees, determined to try what could be done in this way. He crossed a Marguerite with pollen from Robert Houlgrave, scarlet bizarre Carnation, a prize variety, very rich in colour and of the finest form. This was done last September, for the Marguerites did not flower until the greater portion of the prize flowers were out of bloom; however, a late bloom or two of Robert Houlgrave enabled an experiment to be tried and a pod of seed ripened. The seeds were sown in February last, the seedlings pricked off and grown into handsome young plants, which are now flowering, and are the *beau idéal* of what pot plants should be for indoor decoration. They are in 48-pots, are from 18 to 20 inches high, well-formed bushy plants with from twelve to twenty blooms and buds on each, and with stronger and better foliage than the Marguerites. The latter possess a good erect

habit of growth, keeping the flowers well up, and especially so in the greatly improved seedlings now flowering at the Sparkhill Nurseries. The improvement in form, size, and substance is very remarkable, viewed as the result of a first cross between the two distinct sections. I sent you petals of the scarlet, and it is a very fine variety, with an almost smooth edge, fit for any stand of self blooms, and the plant is a picture of beauty. Another is a scarlet flaked or rather striped flower, for it is not distinctly flaked, as in our prize varieties. It also shows greatly improved form and size with great breadth of petal, but has a very serrated edge. Another is a good maroon purple self, and another a purple striped variety. All are double, and a great advance in every way as improved Marguerites. Mr. Herbert is again crossing these varieties, and will save every flower for seed, but as all our exhibition varieties are now out of bloom, and so many flowers of the seedlings have yet to open, further crossing will not be easy except from these seedlings.

I unhesitatingly say that there is a great future before this new section, for in reality they are to be regarded as annuals in this way—seed can be sown in January or February, and the seedlings grown so as to be strong flowering plants in the autumn. All other Carnations, including the very pretty free blooming bright scarlet double Grenadin, have to be treated as biennials—that is, the seed sown one year and bloomed the next; but with the Marguerite section, about seven months is sufficient to have strong flowering plants from the seed sowing. They should not be kept in warmth at any time, but treated in a hardy manner. No doubt the idea of improvements by crossing has occurred to others. I have not heard of others' experience. Next year at our Carnation shows, if the new race of seedlings can be got into bloom in time, Mr. Herbert will be able to show what he is doing, and if not then in flower other opportunities will crop up for their being seen.

The Marguerites, Grenadins, and the very beautiful double and single varieties of the Heddewigi and laciniatus families of Dianthus are all so richly deserving of the attention of amateurs that I very strongly recommend their culture, but to be grown in a hardy way. The two latter sections should be planted as single plants and not in clusters, so that their full beauty may be seen. Seeds are easily obtainable.—WILLIAM DEAN.

FUNCTIONS OF VINE LEAVES.

MR. W. IGGULDEN, in his latest contribution to this subject, page 286, has failed to bring forward any weighty arguments in support of his theories for two reasons. One is, that he tries, by citing exceptional cases to prove his previous assertions; the other, that he shows how in careless hands only the practice he condemns may prove a "snare and a delusion." It is seldom indeed that a careless cultivator achieves good results, less often great ones, and never lasting cultural successes. Let us, therefore, leave out the case of the careless cultivator, and argue on the assumption that whatever system is pursued it is intelligently carried out.

Mr. Iggulden is not, I am sure, the man to contend that Vine leaves badly infested with red spider are otherwise than injurious to the health of a Vine at whatever stage of growth they are allowed to establish themselves. The fact that he has been able to produce well-coloured Grapes and a thriving colony of this abhorred insect on the same shoot was probably because the colouring process was almost completed before the red spider was allowed to rest undisturbed. Then, again, it depends in a great measure upon the size of the bunch as to whether one or four primary leaves were necessary to secure perfect colour. Supposing, for the sake of argument, the bunch having four leaves beyond it was smaller than that having only one, the greater number of leaves may not have been necessary to effect the colouring of that particular bunch; they would, however, add materially to the health and vigour of the Vine, and by helping to maintain a vigorous circulation enable the one primary leaf to elaborate a greater quantity of sap than it could do if all the shoots had been stopped at one joint beyond the bunch. It is easy enough to obtain large bunches and berries for a few years by close stopping, but deterioration soon begins. Small and medium sized bunches colour well enough with but little growth beyond them as long as there is plenty of good leaves on other parts of the Vine, but I have never seen a large bunch satisfactory if treated in the same way. If Mr. Iggulden succeeds in colouring the bunch of Gros Colman he speaks of as perfectly as he usually colours that variety his theory will gain credence to a certain extent; but too much reliance ought not to be placed upon solitary instances; he must first prove it to be the rule before we can accept it as a conclusive proof.

Then with regard to the undoubted fact that bunches left on a

leading growth often produce small berries. This, Mr. Iggulden admits, is an extreme case, but that it first set him thinking on the subject. I am afraid, however, his active brain did not allow him to think quite deep enough to take into consideration how little analogy there generally is between the treatment a leader and a lateral receives. No doubt it is possible to be too liberal in allowing primary leaves beyond the bunch, especially if the shoots are allowed to go unchecked from the start to finish, as is often the case with a leader, extending sometimes to 6 or 7 feet beyond the bunch. Compare this treatment with that which the laterals receive, even when these go unstopped till they have made four leaves beyond the bunch. They are ready for that operation by the time the berries commence swelling, and sub-laterals do not make any great amount of growth till the stoning process begins; the fruit would then begin to be benefited by the elaborated sap, the leaves up to this time not being sufficiently solidified to perform the work of elaboration. In the case of a leader, however, the growth would be going on just at the time when the sap might, with advantage, be forced into the bunches. Some cultivators pursue the excellent practice of stopping their leaders when they have made about 3 feet of growth; the lateral, which shows at the point, is then rubbed out. This causes the main bud to break strongly and grow freely. Under this treatment I, and no doubt Mr. Iggulden as well, have seen grand bunches with fine berries brought to perfection, notwithstanding the fact that many feet of growth existed beyond the bunch.

The Muscat Vine rods in the famous vinery I referred to, were, as far as I can remember, about 6 feet apart, and the black varieties a foot or more less, but I maintain that by growing them at the distances apart I have previously stated would not result in a less weight of crop per superficial foot of glass, for the extra space given to each Vine enables it to perfect a corresponding increase of crop. With plenty of foliage and active roots one Vine will carry with ease a crop which to another would be ruin. I am inclined to think that the majority of cultivators consider active roots and the necessity for frequent applications of water a most satisfactory state of affairs rather than otherwise; to me it is a sure indication that all is well. Mr. Iggulden, somewhat ingloriously, tries to bring in the case of another famous vinery, the Vines in which he describes as having "gone wrong," although treated on exactly the same lines as I have advocated. He does not go so far as to say they have done so in consequence of having been so treated, but he leaves readers to infer as much. I can readily comprehend to what vinery he refers, but I have recently heard, from to a most reliable source, that the partial failure is attributed quite a different cause. This I was assured to be the case by an individual whose ideas on Vine culture are thoroughly well known to Mr. Iggulden.

I am fully convinced that numbers of Vines which get into a weak and unsatisfactory state do so to a great extent because they are persistently closely stopped, and I am equally certain that hundreds of others may and are greatly improved by allowing greater freedom of growth, in conjunction with good culture in other respects. Under the close stopping system Vines may be at their best when six or seven years old. There are, however, many Vines which are better at twenty than at six years old. I will even go so far as to say that Mr. Iggulden's Vines have been greatly benefited by the practice he now condemns. His strong advocacy of close stopping has only recently been adopted, and I think in his own practice only partially carried out. When I saw the Vines under his charge I found, unless my memory plays me false, young rods being taken up from some of them, and the principal rods by no means closely disposed; so that, although his Vines are old, they are still satisfactory, because a good deal of extra growth has been annually going on, and even this year he has shown that some laterals have been allowed to develop five leaves beyond the bunch. I fully believe that if he continues for any length of time the close stopping he now advocates he will, sooner or later, find it wise to abandon the practice.—H. DUNKIN.

I do not wish to intrude myself into the discussion between Mr. Iggulden and Mr. Dunkin, at its present stage at any rate, but I do think the former might profitably expound his views on the two closing lines of his last paragraph, page 286. "The colouring will be satisfactory enough, but something else besides good leaves is responsible for that." This "something else" many persons would, I think, like to know. Mr. William Taylor once said in the pages of this Journal that he could undertake to colour any Grapes (I am not, however, certain now whether he did not allude especially to Black Hamburgs, but I am writing from memory), if the Vines were not overcropped and the roots were active. For years I wished I knew Mr. Taylor's secret. I have no idea on what principles he worked, but for several years now I have

had no difficulty in colouring Grapes provided the Vines are fairly healthy and the foliage good and free from insect pests.

All that is needed, in addition to adequate support, to colour Grapes well is abundance of air day and night during the colouring period. The majority of badly coloured Grapes is not alone due to overcropping, or the foliage devoured by red spider, but by growing the Vines in too close, too moist, and too confined an atmosphere. Such treatment is detrimental to the colouring of Grapes. I have found Grapes to colour best when the structure in which they are grown is ventilated from the time they commence colouring as liberally as a greenhouse. Early in the season a check is avoided by gradually subjecting the Vines to cooler and more airy treatment. If this liberal ventilating principle were carried out more generally we should hear less of scalding in the case of Lady Downe's and other late kinds.

I remember once saying there was no more difficulty in scalding Black Hamburgh and Madresfield Court than in scalding Lady Downe's. The statement met with a good deal of opposition at the time. As I stated then, I can state now in good faith, that scalding is not constitutional to Lady Downe's, but is brought about by the cultivator, and can by him be prevented. — WM. BARDNEY.



ROSES AT THE PRINCIPALITY NURSERY, DEGANWY, LLANDUDNO.

ON paying a recent visit to the above—the latest addition to Messrs. Wm. Clibran & Son's nursery grounds—I was agreeably surprised to observe such a transformation scene in so short a time, rough uncultivated grass land having been quickly changed to a breadth of Roses. The nursery is about 15 acres in extent, and is mainly devoted to Rose-growing, for which purpose the marly loamy soil is eminently suited, as evidenced by the clean and healthy appearance of the 30,000 or 40,000 plants grown. There was not a weakly plant to be seen, nor was any mildew or rust to be observed on the place. All classes were making strong, sturdy, useful growth with every prospect of splendid well-ripened plants for sending out in November. It has been unnecessary as yet to use manure of any kind, and as long as the natural soil will produce similar blooms, and such strong and sturdy, but not gross plants, none will be needed. In the pure air of their breezy hillside the blooms of H.P.'s develop wonderful depth of colour, and the exquisite and delicate shades of the Teas and Noisettes come out to perfection.

All, or nearly all, the plants are grown as dwarfs, the stock most extensively used being the Briar in both its cutting and seedling form, and the results so far have proved the wisdom of the selection. Hybrid Perpetuals, as a matter of course, are largely grown. Of varieties of recent introduction, the white La France, Augustine Guinoisseau, and Sir Rowland Hill are conspicuous, and they are very effective in contrast. Among the older varieties the following are particularly noticeable:—Alfred Colomb, A. K. Williams, Baroness Rothschild, Duchess of Bedford, Duke of Edinburgh, Merveille de Lyon, Annie Wood, Captain Christy, Chas. Lefebvre, Comtesse de Serenye, Général Jacqueminot, Her Majesty, La France, Lord Macaulay, Louis Van Houtte, Madame Gabriel Luizet, Marie Baumann, Monsieur E. Y. Teas, Mrs. J. Laing, Mrs. Jowitt, Prince Arthur, Prince Camille de Rohan, Reynolds Hole, Rosieriste Jacobs, Sénateur Vaisse, Sultan of Zanzibar, and Ulrich Brunner. The Teas are pictures of health and vigour. They are grown in immense quantities, and where all are so good it is almost invidious to make comparisons; still some are found to merit a special note. Climbing Niphetos is in grand condition, and there is no doubt of its climbing propensities as grown there. Mrs. James Wilson is also strongly in evidence, and likely to prove a fine acquisition, and so is White Perle. Of Anna Ollivier, Catherine Mermet, Innocente Pirola, Madame Cusin, Marie Van Houtte, Souvenir d'Elise Vardon, The Bride, Rubens, Souvenir d'un Ami, Princess of Wales, Perle des Jardins, Niphetos, Madame Lambard, Madame de Watteville, Devoniensis, and Climbing Devoniensis, I can say no more than that they are seen at their best. Among the Hybrid Teas Grace Darling and Lady Mary Fitzwilliam are conspicuous even in good company, and so are Maréchal Niel and W. A. Richardson among the Noisettes. Bourbons also receive their quota of space and careful attention. In this class Kronprinzessin Victoria and Mrs. Paul struck me as being a pair of grand autumnals.

Space will not admit of copious notes, so that many of the varied classes of Roses cultivated have to be passed over hurriedly; moreover, my time was short, but even with the probability of missing my train I was compelled to halt and admire the lovely Rugosa Madame Georges Bruant, its ample glossy leafage and exquisite elongated Niphetos-like buds being charming. It is worthy of extensive planting—if not in the Rose bed or Rose border proper, then in clumps, skirting lawns and shrubberies and similar positions, where it would prove as interesting and be as great a source of beauty and usefulness as its larger brethren

are in more favoured spots. Let us hope that others of the same class in different colours will soon be added to the list.

Although this is a Rose nursery, we find many gems in shrubs suitable for sea-coast planting, and such as are too tender to winter safely out of doors in Cheshire. Hardy herbaceous plants, too, if not as yet in large numbers are in great variety, forming the nucleus of an extensive stock, and of such quality as the firm is already so deservedly noted for. The thriving condition of all the plants is apparent throughout the grounds, reflecting high credit on the skill and painstaking care of the manager of this branch, Mr. Heath.—JOHN ROBERTS, *The Gardens, Tan-y-bwlch, R.S.O., N. Wales.*

NEW IRISH ROSES.

I SUSPECT that others of your readers, as well as myself, felt disappointed by the announcement that Messrs. A. Dickson & Sons had sold their splendid gold medal Rose Mrs. W. J. Grant to an American nurseryman, because this will mean that we shall not be able to get it until the spring of 1894. There seems to be no possibility of denying "cousin Jonathan" when he sets his mind upon the acquisition of anything first-class, whether it be a thoroughbred Hereford or Derby winner, or, as in this case and that of Mrs. J. Laing and Her Majesty, a gem of the first water among Roses. And this Rose is certainly unique. La France is generally regarded as a hybrid, and hybrids are considered to be non-seed-bearing, yet this is a seedling from La France and Lady M. Fitzwilliam. Its colour, too, will ensure it a hearty welcome from lovers of old-fashioned flowers, for it is the true old bright rose-pink, and as sweetly scented as Roses were when Shakespeare uttered his oft-quoted dictum, "A Rose by any other name would smell as sweet." Add to this that it is constantly in flower from early June until frosts cut it off, and it will be conceded that our American friends are to be congratulated indeed.

But if we are disappointed about Mrs. W. J. Grant we must find consolation in the fact that Marchioness of Londonderry is still in the raiser's hands, and to make her début next spring. From the exhibitor's point of view solely this will probably prove the finest Rose yet seen. With Margaret Dickson Messrs. Dickson touched high-water mark, but with the Marchioness they certainly go a step farther, for the new comer is of a pure ivory whiteness, while the bloom is shaped like a first-rate example of Alfred Colomb, and about twice the size. The flower stem also is as thick as an ordinary lead pencil, and quite as sturdy, so that the flower stands as erect as an Oak, even after travelling twenty-four hours without water. As additional proof of its staying powers, I may say that a bloom so sent retained its form completely for three days after. No wonder this fine variety was awarded two special first prizes at the Ulverston Show. If it is beaten for the gold medal at the Crystal Palace next July its conqueror will have to be a wonder. The foliage is large and leathery, and the scent very distinct—something like a Magnolia. Judging by these two splendid novelties and others which have come to us from the same hands, the days of our dependence upon French raisers seem to have for ever passed away.—J. B.

STEAM VERSUS HOT-WATER HEATING.

IN order to determine whether steam or hot water were the best for heating greenhouses, a series of experiments have been made at the Agricultural Experiment Station in connection with the Cornell University (New York, U.S.A.), in which the following conclusions were arrived at:—1, The temperatures of steam pipes averaged higher than those of hot-water pipes throughout the entire circuit for the entire period of test. 2, The higher the inside temperature in steam pipes the less is the proportionate warming power of the pipes at a given point. The heat is distributed over a greater length of pipe, and as steam is ordinarily carried at a higher temperature than hot water, it has a distinct advantage for heating long runs.

3, When no pressure is indicated by the steam gauge, the difference between the temperatures of the riser and the return is greater with steam than with hot water. 4, Under pressure the difference is less with steam than with hot water. 5, There is less loss of heat in the steam risers than in the hot-water risers, and this means that more heat in the steam system is carried to the farther end of the house and more is spent in the returns as bottom heat. 6, This relation is more uniform in the steam risers than in the hot-water risers, giving much more even results with steam than with hot water. 7, When the fires are operative the fluctuation in the temperature of the risers at any given point is much greater with hot water than with steam.

8, An increase in steam pressure raises the temperature in the entire circuit, but the temperature does not rise uniformly with the pressure. 9, The first application of the pressure increases the temperature of the returns much more than that of the risers. 10, Steam is better than hot water for long and crooked circuits. 11, Pressure is of greater utility in increasing the rapidity of circulation of steam and in forcing it through long circuits and over obstacles. 12, Unfavourable conditions can be more readily overcome with steam than with hot water.

13, Hot water consumed more coal than steam, and was at the same time less efficient. This result would probably be modified in a shorter and straighter circuit with greater fall. 14, Under the conditions here present steam is more economical than hot water and more satisfactory in every way, and this result is not modified to any extent by the style of heaters used.



EVENTS OF THE WEEK.—The ensuing week will be rather a very busy one so far as metropolitan horticultural events are concerned. The great Show of Potatoes and fruit which opened at the International Horticultural Exhibition on Wednesday, continues to-day (Thursday) and Friday. The National Chrysanthemum Society will hold an Exhibition of October flowering Japanese Chrysanthemums at the Royal Aquarium, Westminster, on Wednesday, October 12th, continuing the two following days. The Conference Meeting will be held on Wednesday evening at seven o'clock. The customary sale of Orchids and other plants will take place at Messrs. Protheroe & Morris's auction rooms.

— **THE WEATHER IN LONDON.**—During the past week the weather has been cold and variable. On Sunday heavy rains fell, and the two following days opened fine, but towards evening the elements were again disturbed. At the time of going to press the weather is milder, but with every prospect of rain.

— **GARDENERS' ROYAL BENEVOLENT INSTITUTION.**—We are requested to remind our readers that the Anniversary Festival dinner of this Institution will take place on Tuesday, November 15th, at the Hotel Métropole, Lord Brassey in the chair. Applications for tickets should be made to the Secretary at 50, Parliament Street, London. It is also desired that collecting cards which are outstanding may be sent in before the above date.

— **ROYAL HORTICULTURAL SOCIETY.**—The attention of the Council having been drawn to a difficulty in the awarding of certificates, &c., to plants which have received * * * at Chiswick, passed the following minute at a meeting on October 4th:—"The Council request that in future whenever any plant (fruit, flower, seed, vegetable, &c.) shall have had * * * given it by a Committee meeting at Chiswick the Superintendent of the Gardens will (if it be possible) bring it forward at the next (or nearest possible) general meeting of the Society at Westminster or elsewhere in order that it may, if still thought deserving, receive a more definite award." The Council also passed the following minute:—"The definite award made under the above minute of Council will be given (as all the Society's awards are made) to the plant in question, and the custody of the certificate or other award will vest in the person sending the plant, &c., to Chiswick for trial."—W. WILKS, Sec. R.H.S.

— **DEATH OF MR. C. H. SHARMAN.**—It is with feelings of great regret that we have to announce the death of Mr. Charles Henry Sharman, who has for many years supervised our extensive establishment in Holborn under the direction of our managing partner. Those who have been favoured with Mr. Sharman's acquaintance will have observed that during the last twelve months he has not carried the same hale and hearty appearance that has characterised his bearing through a long series of years. If you will kindly give effect to a few lines in your columns expressing our deep regret at his sudden demise we shall feel obliged.—JAMES CARTER & CO. [All who were acquainted with the late Mr. Sharman will share in the regret of the proprietors of the great firm which he served so loyally and well. He died on the 28th inst., we understand from an apoplectic seizure, and was, we think, about fifty years of age.]

— **GARDENING APPOINTMENTS.**—We understand that Mr. J. F. Simpson, until recently foreman at Marton Hall, Middlesborough, Yorkshire, has been appointed head gardener to W. M. Smythe, Esq., The Lawn, Warwick, and has entered upon his duties. Mr. F. Kneller, late foreman to Mr. S. Bides, of Farnham, has also received an appointment in a similar capacity to the Marquis of Ripon, Studley Royal, Yorkshire. Mr. Jas. Bagshaw has been appointed to succeed Mr. C. W. Sharpe as head gardener to Edmund Peel, Esq., Bryn-y-Pys, Ruabon, Flintshire.

— **DEATH OF MR. C. EDMONDS.**—We regret to learn of the death of Mr. C. Edmonds, a well known grower of Cyclamens and Primulas, at Hillingdon, near Uxbridge. He died on September 17th, aged sixty-three.

— **STOCK PRINCESS ALICE.**—Among the different varieties of Stocks that I have grown this season this has proved the best. It is a pure white, and most useful for cutting, branching out from the stem. A row in the kitchen garden has been a mass of flower for the past four months; it is also an excellent variety for pots.—J. H.

— **MODERN FRUIT CULTURE.**—Under this title Mr. G. Bunyard sends us a pamphlet of thirty pages containing hints for amateurs and others, the articles being chiefly reprints from the catalogues of the firm, as well as papers read by Mr. Bunyard at meetings of the Royal Horticultural Society. The matter is therefore practical and useful.

— **EDGING FOR BORDERS.**—I shall be glad if any of your readers can tell me the most durable, most economical, and most pleasing edging for borders. I favour tiles, but these are so liable to get broken and are expensive; therefore if these are recommended from experience the price should be reasonable and perhaps may be stated.—W. M. B.

— **THE PEAR CROP.**—Our crop of all varieties of Pears on walls is very light this season, although there were plenty of blossom, but a few standard trees of Williams's Bon Chrétien, Marie Louise, and Beurré Clairgeau have carried heavy crops of fruit and with a clearer skin than has been the case for several years. No doubt the recent rains have been very beneficial to them, the fruit generally having greatly improved of late.—J. H.

— **PEACHES IN THE OPEN AIR.**—At a recent meeting of the members of the Wakefield Paxton Society Mr. J. Campbell, gardener to Mrs. J. H. Micklethwaite of Painthorpe, read an essay on "Stone Fruit." The essayist, who is a successful fruit grower, dealt with his subject in an interesting and thoroughly practical manner. Mr. Campbell contended that it is quite possible to grow Peaches in the open air in the neighbourhood of Wakefield, and said that he had grown them thus with success.

— **GREENHOUSE RHODODENDRONS.**—Mr. Bardney writes:—"Where a delicate pink is needed for table decoration at this period of the year and the following three or four months, Rhododendron Princess Royal (greenhouse variety) should be grown in quantity. This variety grows freely under suitable conditions, and when fully exposed to the sun every point will bloom. The plant naturally produces its flowers in succession, and on this account it is the more valuable for the purpose for which it is recommended. I have not tried it planted out, but intend to do, as I believe it will grow with much greater freedom than when kept in pots."

— **THE same correspondent observes:**—"There will be no lack of variety amongst greenhouse Rhododendrons, if we are to judge from the large number of seedlings raised from crosses now flowering and about to flower for the first time in the Handsworth Nurseries, Sheffield. The type followed appears to be that of jasminiflora. Several plants with blush and delicate shades of pink blooms were in flower, and which, as far as I could form an opinion, will prove worthy additions to the varieties already in commerce."

— **SILVER BEET.**—Attention may fittingly be drawn to the Silver or Seakale Beet as a valuable vegetable, which should be grown in all gardens where Seakale is appreciated. By many the midribs of this Beet are preferred to Seakale. One or two rows will yield an abundant supply if given liberal treatment. It requires land that has been well worked and liberally manured. It should not be sown too early, or it is liable to run to seed in early autumn.—A GARDENER.

— **THE CURRANT CROP.**—Currants are likely to be dear this Christmas. The new crop, according to the letter of a Bristol house, Messrs. Wedmore & Co., is the smallest for many years. The reduction in weight by disease, they say, has been generally understated. This disease, a kind of mildew (the Greek Peronosperos), suddenly attacked the Vines when the fruit was maturing, and seems to have withered up and destroyed the bunches. The greatest damage has been done in the district of Pyrgos, where the crop turns out only 15,000 tons, against 40,000 tons last year. In the islands Zante and Cephalonia the crop is 12,500 tons, against 20,000 tons last season. These important districts, therefore, have together produced less than one-half of last year's yield. The other districts have suffered more or less seriously. Supposing them to produce 80,000 tons against 100,000 last season the "shortage" on the total crop of Currants will be over 50,000 tons. In the last three seasons the average consumption of Currants in the world has been 149,000 tons. There are only four tons of Currants this year against every five tons last year. France, we are told in the letter above quoted, is likely to use Currants largely for wine making this season, as the vintage in that country is a small one, and must be supplemented from other sources.

— PEACH MAGGOT.—Perhaps "J. B." would send, in a tin box to the Editor, specimens of the maggot complained of on page 282, as then one could better judge of the mode of treatment.—ENTOMOLOGIST.

— A PROPOSED NEW PARK.—It is stated that a project is on foot for the acquirement of the ground occupied by the "Wild West," at Earl's Court, as a public park. The space is about 6 acres in extent, and it would be of considerable value for the purpose named. By adding the adjoining site of the International Horticultural Exhibition a park of some pretensions would be acquired.

— SUBURBAN ALLOTMENTS.—According to the *City Press*, the Leathersellers' Company have granted a seven-years lease of between five and six acres of their land at Catford, a south-eastern suburb of London, for the purpose of garden allotments for the poorer residents of that locality. Between thirty and forty applications have already been made for the land, and there will be room for ten or twenty others this autumn.

— PRESENTATION TO A NOTTS GARDENER.—Mr. J. H. Walker, who was for many years gardener to the late John Wesley Lewis, Esq., of Hardwick House, Nottingham, was presented on the 28th ult. by his friends at Radford with a very handsome watch and chain, in addition to a magnificent gold scarf pin, as a token of respect on his leaving Nottingham to fulfil his engagement as lecturer to the Leicestershire County Council.

— CARTER'S HOLBORN PROLIFIC POTATO.—I am very pleased to report favourably of this distinct, handsome, and really first-rate new Potato. It is a good cropper; the tubers partake very much of the character of Woodstock Kidney in shape, colour, and quality; in short, Holborn Prolific is everything that constitutes an excellent all-round Potato, the pebble-shaped tubers being of good appearance, having few, scarcely perceptible, eyes, and like balls of flower when cooked. Holborn Prolific is destined to occupy a prominent position at future exhibitions of the "noble tuber."—H. W. WARD.

— A FLOWER SHOW AT HOVE.—The Committee of the Hove Industrial and Horticultural Society have once more to be congratulated upon the success of their annual Exhibition (the fifteenth of the series) held at the Hove Town Hall recently. The steady increase in the number of exhibitors and exhibits is evidence of the popularity of the shows. This year the exhibitors numbered 593 as compared with 554 last year, their productions reaching a total of 1180, or 47 more than was the case last year. Messrs. Baldwin & Sons lent a large number of plants for decorative purposes.

— A NEW STYLE OF ROOFING GREENHOUSES.—When I called last week at Messrs. Keynes, Williams & Co.'s nursery, the latter member of the firm drew my attention to a somewhat novel method of roof making and closing of a large span greenhouse. The rafters were composed of iron in small furrow or V-shapes, being about 1½ inch deep, and 2 inches broad on the upper side. The panes of glass, 14 inches by 16 inches, rested on a bed of putty one-third of an inch in width, laid on to the projecting ledge on each side. Thus, when the glazing was complete, the rain water falling on to the glass ran into the furrows of the rafters, and being in that way carried off, effectually prevented drip of any kind. The ironwork received a coating of rough varnish, and thus prevented rusting. To render the newly glazed roof secure, pieces of copper wire were placed at intervals under the rafters and the ends bent over, made just to press upon the glass the width of the putties, then beneath, with a pair of pincers, a turn or two was given to the wire and it was made absolutely tight. In that way the glass was made in the fiercest storms absolutely wind and watertight.

— ROSA POLYANTHA AS A STOCK.—Mr. Williams also showed me, in a large collection of early spring grafted pot Roses, now standing outdoors, a plant of Niphetos worked on to this stock that had done wonderfully well even as compared with plants on the Manetti. He thinks it is a capital stock for many varieties for pot culture, but advises that it be not trusted for outdoor purposes, as he has found it to suffer severely in hard weather. It is well to be advised by so good an authority in such a matter.—D.

— FROST AND DAHLIAS.—"We had," said Mr. Williams, "one of the most promising lots of seedling Dahlias I ever saw on the 17th of September, and I purposed making a fine show of them at the Drill Hall on the following Tuesday. The severe frost, about 6°, of the morning of the 18th, however, fully settled every plant, and caused a wreck that was piteous to behold. It was a case in which one had need of the profoundest philosophy."—A. D.

— CASSIA CORYMBOSA.—The finest specimen I have seen of this plant is growing in the conservatory at Rooksbury Park, near Fareham, in this county. It is a very old one judging from its appearance, but gives good crops of flowers annually. It reaches fully 20 feet high and is 10 feet in diameter. It is pruned every year, the young growth giving abundance of bright yellow flowers, which are charmingly set off by the dense green leaves for which the plant is noteworthy when in health.—E. M., *Hants.*

— SEPTEMBER RAINFALL IN SUSSEX.—The total rainfall at Cuckfield, Sussex, during the past month was 2.06 inches, being 1.07 inch below the average. The heaviest fall was 1.04 inch on the 29th. Rain fell on twelve days. The rain for the nine months is 15.41 inches, which is 4.86 inches below the average. The highest temperature was 70° on the 12th; lowest 39° on 18th. Mean maximum, 63.2°; mean minimum, 48°; mean temperature, 55.6°.—R. I.

— DAHLIAS AT CHELTENHAM.—A mistake occurs in your report of the Cheltenham autumn Show. "Dahlias were of extra quality. Messrs. Heath & Son secured premier honours for twenty-four distinct varieties." So far quite right. The second prize was awarded to Mr. Thomas Hobbs, Easton, Bristol; Mr. Newman, Kingswood, third; Mr. G. Maylett, Worcester, fourth. Seven stands were staged, and considering the severe frost on the morning of Sunday the 18th, the blooms were of extraordinary good quality. Mr. Garaway of Bath as reported did not exhibit Dahlias. Please note in your next issue.—THOMAS HOBBS, F.R.H.S.

— REPORT OF THE WEATHER AT HAMELS PARK, BUNTINGFORD, HERTS, DURING SEPTEMBER, 1892.—While some correspondents of the *Journal* complain of a very light rainfall, I am glad to say we had sufficient. A very disastrous frost occurred on the morning of the 21st, when Dahlias, French Beans, &c., and even Chrysanthemums, was blackened by it. Rainfall on twelve days during the past month. Maximum in any twenty-four hours was 0.86 on the 21st; minimum, 0.02 on the 25th. Total during the whole month, 2.62, against 1.18 of 1891.—E. WALLIS.

— THE DEVON AND EXETER GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—The annual business meeting for the election of President, Vice-Presidents, Secretaries, Treasurer, and Committee for 1892-93, was held in the Council Chamber of the Guildhall on Wednesday evening, the 28th September. The following excellent autumn programme has been arranged for the session 1892-93. Wednesday, 5th October, Mr. J. McCormick, Wear House Gardens. Subject:—"Grape Vines and their Cultivation." Wednesday, 19th October, Lieut. Percy Smith, Devonshire Regiment, Higher Barracks. Subject:—"Lilies and their Culture." Wednesday, 2nd November, Mr. J. Stoneman, Teacher of Botany at Exeter Museum. Subject:—"How a Scientific Knowledge of Plant Life can help a Gardener." Wednesday, 16th November, Mr. G. B. Carlile, Topsham (late of Martin's Lane). Subject:—"Fruit: its Selection and Handling—from a Fruit-salesman's standpoint." Wednesday, 30th November, Mr. J. Mayne, Bickton Gardens. Subject:—"The Cyclamen: its Culture and Value as a Decorative Plant." Wednesday, 14th December, Discussion on papers read last Session, to be opened by Mr. W. Mackay.

— LACHENALIAS IN BASKETS.—In no other form do these plants produce a better effect than when growing in baskets, especially the variety tricolor, its natural pendulous habit rendering it particularly suitable. The present is a good time to make new baskets or re-arrange the bulbs in the old receptacles, as growth is just beginning. Under good cultivation the bulbs increase fast, so that a selection in various sizes is easily obtained. For suspending in a conservatory or greenhouse a splendid effect can be secured by the aid of a few of these baskets, the rich green of the leaves contrasting well with the three-coloured flower spikes. A cool Peach house is a capital place to grow them in until flowering time; the air required for the Peaches seems to suit the Lachenalias to a nicety. Abundance of water is needed when the plants are growing freely. When the flowers and foliage fade water is entirely withheld from them, and the baskets are hung up in a cool shed until growth commences afresh. Massive baskets, 18 inches in diameter and about 15 inches deep, make the finest display. I have seen many small baskets employed, but none look so well as those mentioned. Galvanised wire (No. 8 size) is more suitable than wood for making them, as it is easily hidden by the moss with which the inside of the basket is lined to retain the soil. The bulbs are put in in layers 3 inches apart for the strongest, and a trifle less for weaker ones. A compost of substantial materials, such as fibrous loam, cow manure, and leaf mould, three parts of the former to one of the latter, will grow good Lachenalias.—E. M.

— PROFIT IN PRUNES.—A writer in the American "Pomona Progress," basing his estimates on the profits of his own Prune orchard and the figures given him by four of the most careful growers in Pomona Valley, California, makes the rosy statement that 10 acres planted with French Prunes will, within ten years, yield an annual net income of £1000. The outlay for such an orchard during the first four years will be something less than £600, including interest. This outlay will be nearly equalled by the crop of the fifth year, while a handsome profit is assured the next season.

— FLAVOUR IN TOMATOES.—The theory that yellow Tomatoes invariably have a higher flavour than red ones will not bear examination. To assume that mere difference in the colour of the skin and flesh, without any change in the texture or composition of the flesh, will enhance flavour, is too absurd. It is like the opinion that white blossomed runner Beans have better flavoured pods than scarlet flowered ones, and yet one is but a colour sport from the other. Flavour will be found in Tomatoes very much just as the plants have been grown in ample light, and have not been over-watered or fed. There can hardly be too much sunlight or warmth to make Tomatoes good. A very handsome looking yellow plum-shaped Tomato shown at the Drill Hall last week was found to be more flavourless than any of the red ones. It is only to start a theory and plenty of disciples are discovered, yet it is generally found that the theory has no tangible basis.—D.

— VICTORIA ASTERS.—This section of annual Asters have been unusually good during the present season, and have well sustained their character for usefulness in the months of August and September, not only as border plants, but for cutting purposes. The range of colour that is procurable in this section renders them both valuable and interesting. Distinct hues can now be had from separate packets of seed. We have a long border filled with Roses, and enough space is allowed in the front for one row of the Victoria Aster and another in front of it of the dwarf Chrysanthemum-flowered section. When the Roses have passed their best, as is the case in August, the Asters maintain the border in a bright condition. Like most annuals Asters do best in a rich soil. We have plenty of plants this year carrying a dozen good blooms, which would be considered far too many if exhibition was the aim, but as decoration of the garden, combined with providing cut flowers, is the object, the more blooms the plants produce the better. Where so many persons make a mistake in growing Asters, as well as with other half-hardy annuals, is in giving too much heat when preparing the plants. When this is the case they are weakened in their infancy, and cannot afterwards give good blooms, nor a quantity of them. A cold frame is all the protection our plants have, but we sow the seed the first week in March, ample time is then allowed for a gradual steady growth. The plants when in bloom never exceed 1 foot high. One stake in the centre of each plant prevents the weight of the blossoms from over-balancing the plants.—S.

— EMIGRANTS' INFORMATION OFFICE, 31, BROADWAY, WESTMINSTER, S.W.—The October circulars of the Emigrants' Information Office, and the annual editions of the penny and other handbooks, with maps, show the present prospects of emigration. The Canadian Government is offering bonuses of five to ten dollars a head to those who take up land in the North-West or British Columbia. The Government Immigration Agencies in the Province of Ontario have just been abolished. Emigrants are warned that the system which exists of paying premiums in this country for instruction in farming in Canada is liable to grave abuse, and is considered by the Canadian Government to be unnecessary. Sydney, in New South Wales, suffers, as usual, most of all from the prevailing depression, and no one without money should go there at the present time unless he has work waiting for him. In country districts there is work to be had on vineyards, stations, and farms, especially at this season of the year. In South Australia almost the only demand last quarter was for ploughmen, shearers, and general farm and station hands, of whom, however, there was a plentiful local supply. In Queensland the re-introduction of the Pacific Islanders to work on the sugar plantations, which has lately been authorised by the Government, has given an impetus to sugar growing, and consequently to the manufacture of machinery for plantation and agricultural purposes, but there is no demand for fresh hands. In South and Western Australia, Tasmania, Cape Colony, and Natal there is a demand for small capitalists, farmers, and fruit growers. As the Brazilian Government are endeavouring to introduce European labourers into some of the tropical provinces of Brazil, it becomes necessary to repeat again most strongly the warnings which have been frequently issued from this office against British emigration to that country.

— A NEW INDUSTRY FOR FOREST DISTRICTS.—Mr. W. J. S. Manning writes from 2, Gray's Inn Road, London: "As your valuable paper circulates in many woodland districts allow me to make the following suggestions for those interested in forestry, or the welfare of their poor neighbours. A new industry might be gradually started where hedge nuts or beech nuts abound, and permission can be obtained to gather them, if these nuts could be gathered and sent up to London or other large towns. Both could be sold at 2d. per lb., or by the cwt. at 10s. to 12s. in any quantity, and the kernels would sell at 5d. per lb. The shelling would afford evening work for the elder children during the autumn months, and I shall be glad to find an outlet for the first 200 or 300 lbs. offered, and pay cash on delivery at a London railway station for either of these nuts on the above terms to make a start. To secretaries of gardeners' societies I may add that I shall be glad to give an address or open a debate on what is man's best and natural food free of any charges."

— SUMMARY OF METEOROLOGICAL OBSERVATIONS AT HODSOCK PRIORY, WORKSOP, NOTTS, IN SEPTEMBER.—Mean temperature of month 54.1°. Maximum on the 19th, 67.4°; minimum on the 18th, 36.1°. Maximum in the sun on the 25th, 124.1°; minimum on the grass on the 18th, 27.4°. Mean temperature of the air at 9 A.M., 55.5°. Mean temperature of soil 1 foot deep, 54.8°. Nights below 32°, in shade, none; on grass, 7. Total duration of sunshine in month, 109 hours, or 29 per cent. of possible duration. We had four sunless days. Total rainfall, 1.74 in.; maximum fall in twenty-four hours on the 20th, 0.99 in. Rain fell on thirteen days. Wind, average velocity 11.0 miles an hour; velocity exceeded 400 miles on one day, and fell short of 100 miles on one day. Approximate averages for September:—Mean temperature, 55.5°; sunshine, 110 hours; rainfall 2.26. A rather cool, but otherwise fairly normal month. The first three weeks were fine. The bulk of the harvest was secured in good order, but the rest of the month was showery and unsettled.—J. MALLENDER.

— CHOLERA PRECAUTIONS AND HORTICULTURAL IMPORTS.—It is feared by the importers of seeds and bulbs that the precautions against cholera may kill or keep out of the country a good many plants besides the comma bacillus. The long delays at quarantine in the close holds of steamships will injure many seeds and bulbs and kill many living plants outright. Besides this a delay at this season of active opening of the autumn trade is most annoying, and it will cause much disturbance if not pecuniary loss. Many invoices have not yet left the other side, and importers hardly know whether to countermand their orders or allow the stock to take the chances of quarantine delay, and what is still more dangerous, of quarantine disinfection. It may be that some of the vapours used to destroy cholera germs will not kill Holland bulbs, for example. But some of the processes in which hot steam is used to kill the comma bacillus by sheer heat would be likely to cook bulbs beyond all hope of germination. We hope the dangers of the situation are not so serious as some have feared. Importers will doubtless order shipment only from clean ports, and if health officers use proper judgment in selecting their modes of disinfection seeds and bulbs ought to escape without injury. But it is well worth while for the importers of stock of this character to make a united effort to secure fair treatment. Thus writes "Garden and Forest" (American). Happily there is no cause for precautions with British exports.

— A DISTINCT SINGLE BEGONIA.—Any good break in these flowers is welcome. I saw on Sunday last, when taking a stroll round the outskirts of that fine Somersetshire town Yeovil, what was evidently a very brilliant display of Begonias in a show house, over which was the name of Mr. B. R. Davis. To pass such a show, even though recently pretty well satiated with Begonias, was against gardening nature. I therefore found Mr. Davis, and had a close view of his beautiful single and double flowers. They have not all the good things at Forest Hill or Swanley by any means, but it does seem a surprise to find Begonias in such splendid form at Yeovil. The gem of the collection, however, in my estimation, was a striking single crimson, the flowers being both five and six petalled, large, flat, and regularly placed. One of the blooms there was 6 inches across, but others have exceeded 7 inches. That will show that the variety has the merit of size, as well as the novelty of surplus petals. The sort is four years old, and first gave four-petalled crimped-edged flowers; then came the following year six petals, in all cases of large flowers. The following year they produced five petals, and now this year they have been six again, except in the case of one late bloom. Here is the prospect of a break, which should give to us quite a new and even more beautiful strain of Begonias than we now possess. Mr. Davis promised he would do his best to send the flowers to the Floral Committee.—ALEX. DEAN.

A FINE WEEPING ASH.

THE engraving (fig. 42) has been prepared from a photograph of a fine Weeping Ash standing at the south-western corner of the lawn at Benham Park, Newbury. Its height is about 30 feet and its circumference 90 feet. The age of the tree is not known, but it has been planted upwards of thirty years. Mr. J. Howard, the head gardener, informs us that the circumference of the tree was much the same when he first saw it fourteen years ago, but that it was then allowed to make a new leader and has since nearly doubled its height. There are doubtless many taller specimens than this, but perhaps few so symmetrical in growth. As may be seen there is an opening in the tree, and it has occasionally

NOTES ON CROCUSES.

THE Crocus with its rich yellow, purple, pure white, blue and lilac flowers is a prey to a variety of pests. Its flowers have a peculiar charm for sparrows and rooks, while mice seem to delight in devouring the corms, and rabbits the foliage. What difference there may be in the corms I do not know, but mice have a particular liking for those which bear yellow flowers. I have known them to destroy nearly every yellow one, while whites, purples, and striped kinds have not been touched. A slight syringing with petroleum and water will often prove effectual in the case of rabbits.

The Crocus is a sun-loving plant; it will grow in the shade, but it seems to lack the bright brilliant hue that is so characteristic of the flowers when grown in open sunny spots. It is less useful for growing



FIG. 42.—WEEPING ASH IN THE GROUNDS OF BENHAM PARK, NEWBURY

been used as a resort for tea and refreshments at tennis parties. The photograph, which is an excellent one, was taken by Miss Myers.

The tree on the right of the Ash is a Beech in ill health, and is condemned to come down in the winter. Another effective tree on the lawn is a good specimen of the Golden Yew, which a month ago was in full summer beauty. Near the Ash is a plant of *Chamærops humilis* over 20 feet high; it was removed from the conservatory last year and stood the test of the winter fairly well, but when the cold winds of March came it was severely cut. It has lately made a number of new leaves, and Mr. Howard hopes to get it permanently established.

in grass than the Snowdrop, because its foliage is considerably longer in dying and thus prevents mowing. Crocuses should never be planted in the grass where it is necessary to keep it neat and short. In woods, by the side of woodland walks and in any semi-wild place, they are delightful springing naturally from amongst the grass. In these positions the foliage can ripen off naturally before it is necessary to mow the grass. Cut off the foliage while it is green, continue the practice for a few seasons, and the Crocuses will quickly degenerate. The yellow, white, and light forms are the best for planting in grass. Crocuses, like Snowdrops, should always be planted in positions where they can remain undisturbed until it becomes necessary to lift them through overcrowding. They are charming for association with the flowers named, and the

departing beauty of the one does not appear to mar in the least the brilliancy of the other. For garden decoration Crocuses are extremely cheerful, and when planted in large numbers they add a bright, even a picturesque effect if carefully and judiciously planted.

Crocuses are far more particular about the soil in which they are grown than Snowdrops. Although they live, flower, and to some extent flourish in poor soil, they do not increase so rapidly, grow so strongly, or produce such large flowers as when grown in good fertile soil. But this is not the main point; they must have a drier and warmer soil than Snowdrops. In the Lincolnshire fens, where Snowdrops can be well grown for sale, some of the land is too wet and cold for the well-being of Crocuses. On any light, warm, dry soil their culture for market might be taken up with advantage. Large quantities are grown for sale in Lincolnshire and other places, but even larger quantities are annually imported, which could be equally well grown if cultivators would only set about doing so. If small cultivators of land would commence growing such bulbs as Crocuses with the same zeal and energy that many display with bulbs of different kinds in the neighbourhood of Dorrington, and other districts near Spalding, they would find it far more remunerative than many things that they grow in small quantities, and have therefore a difficulty in finding a good and ready market for. There is land far more suitable for bulb growing than that in the neighbourhood to which I have referred.

Crocuses are more generally forced than Snowdrops, and this is due doubtless to the more striking appearance of their flowers. Where flower forcing is carried out on a large scale and conservatories are kept gay with a variety of plants that flower months before their natural time a few Crocuses should certainly be grown, but they ought to precede those flowering outside or their culture in pots is best left alone. The corms should be obtained for this purpose by the end of August or the first week in September at the latest. I have found some difficulty in getting them as early as I should like; whose fault this is I do not know. One thing is certain, they leave the home grower in time to be in the market ready for distribution by the end of August. Four and 5-inch pots are the most suitable. The latter are preferable and should contain as many corms as can be conveniently placed in them. I believe in covering the bulbs with an inch of soil and leaving room in the pots for watering. The pots should be plunged in the usual way, or covered with 2 inches of fine coal ashes until they are full of roots and signs of top growth are visible. The plants should not be allowed to grow too long before they are removed to a cold frame. The best method is to place the pots in cold frames and to sprinkle between them some cocoa-nut fibre refuse so as to fill the pots level with the rim and allow the plants to grow through. They will progress rapidly under these conditions, and if finally removed to a house where the temperature averages about 45° they will come forward almost naturally into flower. They need plenty of water, and should never be allowed to become dry. They ought never be placed on dry shelves, and they should not be hurried, as they resent any attempt at forcing. Subject them to an undue share of forcing, and they will either go blind or be longer in coming into flower than if brought forward under more natural conditions.

For a good many years I have been engaged in forcing Crocuses, and the earliest flowers, though perhaps not the finest, can be had by looking after the plants well after flowering and forcing them the second year. A few only should be retained for this purpose, because for successional batches the cost of the labour is more than new bulbs can be purchased for. My remarks on growing Crocuses in pots only deal slightly with those grown specially for the exhibition stage. For this purpose much larger pots are generally used, and if there is one difficulty to contend with it is that of keeping back the plants for the date of the show. In some seasons they come almost naturally into bloom at the desired time, and therefore there is not so much skill required in having good pots for showing as to have them in flower early in the season.—WM. BARDNEY.

ROYAL HORTICULTURAL SOCIETY.

OCTOBER 4TH.

A MORE than usually interesting display awaited visitors to the Drill Hall on this occasion, for apart from the Michaelmas Daisies, which were expected to be the most prominent feature, there was a varied assortment of plants and flowers, a brilliant show of Orchids, and a magnificent display of fruit. Messrs. Cheal & Son had a superb collection of Apples and Pears; while A. H. Smee, Esq. (gardener, Mr. Cummins), and the Dowager Lady Freake (gardener, Mr. Rickwood) also had excellent displays.

FRUIT COMMITTEE.—Present: Philip Crowley, Esq. (in the chair), with Rev. W. Wilks, Dr. Hogg, and Messrs. John Lee, T. F. Rivers, P. Veitch, G. Bunyard, J. Cheal, G. Taber, H. Balderson, J. Hudson, G. Wythes, G. Sage, W. Bates, C. Ross, A. Dean, G. Cummins, Harrison Weir, J. Willard, and J. Wright.

A dish of *King Harry Apple* was sent from Chiswick as a free bearing useful variety, very tender, sprightly, and juicy (award of merit). Messrs. S. Spooner & Sons, nurserymen, Hounslow, sent an Apple called *The Baron*, a handsome looking fruit, like a richly coloured Queen. The Committee desired to see it again later in the season.

Mr. C. Ross sent two dishes of Apples, seedlings from *Golden Reinette*. No. 1, was transparent, attractive, but over-ripe; No. 2, coloured, not remarkable for quality, but an award of merit was accorded. Mr.

Edmonds, The Grange, Gillingham, Kent, sent a dish of an Apple named *Empress*, a seedling from *Dumelow's Seedling*, good in appearance, but though no doubt useful, was not regarded as an advance on existing sorts. Mr. James Miles, Normandy Farm, Kent, sent a dish of small well-coloured Apples called *Duchess of Kent*, but the variety was not considered better than *Col. Vaughan*.

Mr. T. Francis Rivers placed on the table a dish of *Rivers' Codlin Apple*, a conical variety of good size, raised from American Mother. Mr. Barron had tested the fruit in a cooked state and pronounced it excellent. Tree a free bearer, and the fruit is said to keep till March (first-class certificate).

Mr. Barron placed on the table bunches of the *White Gros Colman Grape* grown at Chiswick. It was raised by the late Mr. Roberts of Charleville, and has been previously before the Committee. The Vine was sent to Chiswick by Messrs. Dicksons, Limited, Chester. The berries in shape and size resemble the type, but are more sweet, juicy, and refreshing (first-class certificate). Mr. Barron also submitted bunches of *Royal Muscadine* and *Chasselas Vibert*, the last being of twice the size of the former, earlier, and better. An award of merit was granted for it as a cool greenhouse and outdoor Grape. Mr. G. C. Ritchings, gardener to D. Frankland, Esq., sent a Melon, the result of a cross between *Read's Scarlet* and *Hero of Lockinge*, a variety of promise, which the Committee desired to see in the summer.

Mr. Willard, Holly Lodge, Highgate, sent cooked and uncooked heads of *Adam's Early Maize* from plants sown in the open in April and May. The flavour was good, and an award of merit was accorded.

Mr. J. Simpson, Dallis Hill, Kilburn, sent Tomatoes *x Perfection* and *Main Crop*. The variety was recommended to be grown at Chiswick. Mr. Hudson sent very fine fruits of Tomatoes, the produce of plants grown in ashes (cultural commendation). He thought, and most of the Committee were of the same opinion, that Tomatoes are often grown in too rich soil. Mr. R. Owen, Maidenhead, sent good and highly coloured Tomatoes resembling *The Conference*. Mr. J. Wilson, Glenlee Gardens, Hamilton, N.B., sent a Cucumber, very large, like an Indian club, altogether too overgrown for southerners. Mr. Leach, Albury Park, sent good specimens of Lettuce, and was accorded a vote of thanks. Mr. A. J. Brown, the School of Handicraft, Chertsey, sent a small collection of Apples and Pears, from trees planted in 1890 (vote of thanks). Mr. John Cook sent very good *Reine Claude de Bavay* and *Coe's Golden Drop* Plums, and a dish of Peaches; a vote of thanks was accorded.

Mr. Rickwood, gardener to the Dowager Lady Freake, Tubwell Park, Richmond, sent forty dishes of admirably grown Apples and Plums, and a small silver medal was recommended.

A. H. Smee, Esq., Hackbridge, (Mr. G. W. Cummins, gardener), exhibited sixty dishes of Apples fine in size and colour, and a silver Knightian medal was recommended. Messrs. J. Cheal & Sons, Crawley, staged 140 dishes of remarkably fine Apples and Pears, and a silver-gilt medal was unanimously recommended.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair), Messrs. J. Laing, B. Wynne, R. Dean, R. Owen, H. Herbst, E. Bause, G. Phippen, G. Nicholson, F. Ross, W. C. Leach, N. Davis, C. E. Pearson, C. J. Salter, W. Bain, C. Jeffries, J. T. Bennett-Poë, T. Baines, J. Walker, John Fraser, G. Paul, W. Goldring, C. T. Druery, W. Furze, and G. Gordon.

Messrs. J. Veitch & Sons contributed *Hymenanthera crassifolia* (see below), *Caryopteris mastacanthus*, *Amasonia punicea* (cultural commendation), *Rhododendron multicolor Neptune* (see below), and a splendid box of *Streptocarpus*, well illustrating the great advance that has already been made with these. Messrs. B. S. Williams & Son showed *Clivia Autumn Beauty*. Mr. W. C. Leach, Albury Park Gardens, Guildford, contributed *Hippophaë rhamnoides*, *Rosa polyantha japonica* and *Rosa rugosa*, also pots of *Mignonette Her Majesty* from seed sown in June. A vote of thanks was accorded. Mr. W. Wells, Earlswood, sent a collection of Chrysanthemums, for which a bronze Banksian medal was awarded. He had a large box of the yellow Japanese *William Wells*, together with good blooms, considering the earliness of the season, of many well-known varieties. Mr. H. Elliott, Stourvale Nursery, Christchurch, sent a collection of Nerines, of which *corusca major*, rich scarlet, and *c. m. sarniensis*, very deep rose, were the best. Messrs. Pitcher & Manda sent *Anthurium crystallinum fol. variegata* and *Adiantum cuneatum fol. variegata*. Both, however, were passed. Mr. Owen sent Chrysanthemum *Madame Zephyr Lionnet* and two English seedlings, named *General Hawkes* and *Lady Brooke* (see below). The Rev. W. Wilks sent a few perennial Asters; Mr. Fry, a small yellow Carnation, named *Buttonhole*; and Mr. Rawlings, *Dahlia Mrs. Vagg* (see below).

Messrs. Peter Barr & Son, Covent Garden, staged a most interesting collection of Asters, prominent amongst which were *Aster amellus majus*, *Aster ericoides*, *A. ericoides Cleo*, *A. puniceus pulcherrimus*, *A. novæ-angliæ roseus*, *A. vimineus*, *A. cordifolius*, *A. umbellatus*, *A. cordifolius elegans* and *multiflorus* (silver Banksian medal). An excellent collection of Asters was sent from the Royal Horticultural Society's Gardens, some very fine varieties being staged. *A. corymbosus*, *A. trinervis*, *A. paniculatus* var. *W. E. Grant*, *Aster acris* var. *nanus*, *A. versicolor* var. *Antigone*, *A. amellus* var. *bessarabicus*, *A. amellus* var. *majus*, *A. umbellatus*, *A. linoxyris*, *A. puniceus* var. *pulcherrimus*, *A. novæ-angliæ* var. *Melpomene*, *A. novi-Belgii*, *A. lævis*, *A. novæ-angliæ* var. *præcox*, *A. novi-Belgii* var. *Horace*, *A. Arcturus*, *A. longitollis formosus*.

Messrs. E. D. Shuttleworth & Co., Fleet, Hants, sent a group of

hardy perennials, amongst which *Tritoma Uvaria*, *Rudbeckia laciniata*, *Pyrethrum uliginosum*, *Helenium autumnale*, *Rudbeckia Newmanni*, *Aster nivea*, *A. amellus bessarabicus*, *A. puniceus* var. *lucidus*, *A. novæ-angliæ rosea*, *A. Robt. Parker*, and *A. Curtisi*. A bronze Banksian medal was recommended. Henry Southall, Esq., The Craig, Ross, also staged a collection of Asters. Mr. Thos. Ware staged a charming group of *Nerines*, including *pumila*, *sarniensis*, *coruscans major*, *excellens*, *amabilis*, *Planti*, and *flexuosa*. He also staged four plants of *Iris alata*, a very beautiful species and remarkably fragrant, for which a vote of thanks was accorded. A small group of tree Carnations was staged by the same exhibitor, amongst which were J. Jassand, Marie Forest, Irina, flavium, Auguste Cotton, John Broughton, Rose Rivoire, Lucifer, and Field Marshal.

Messrs. H. Cannell & Sons, Swanley, sent flowers of the double *Begonia Rosebud*, also a few fine trusses of *Zonal Pelargoniums*. Messrs. J. Laing and Sons, Forest Hill, were accorded a vote of thanks for a small group of *Saxifraga sarmentosa tricolor superba*, which is a pretty and effective little plant. Mr. Crook, gardener to W. H. Evans, Esq., Forde Abbey, Chard, Somerset, staged a small group of Asters, and a collection of hardy border plants, for which he received a vote of thanks. Mr. Thos. Hobbs showed three good blooms of *Dahlia James Hobbs*.

Mr. A. Waterer, Woking, staged, amongst other shrubs, two hampers of *Pernettyas* (silver Banksian medal). Mr. H. Elliott, Stourvale Nursery, Christchurch, sent half a dozen *Dracenas* in variety (see below).

Prizes were offered for hardy perennials. For a collection of eighteen bunches the Earl of Dysart, Ham House, Richmond (Mr. Sage, gardener), took the first prize, showing *Eryngium Oliverianum*, *Helenium autumnale*, *Aster lævigatus*, *Rudbeckia Newmanni*, *Helianthus multiflorus plenus*, *Gypsophila paniculata*, *Pyrethrum uliginosum*, *Lilium auratum*, *Erigeron speciosus*, *Phloxes*, *Helianthus decapetalus*, and some fine bunches of Asters. The first prize for twelve was awarded to W. E. Hall, Esq., Coker Court, Yeovil (Mr. Horley, gardener), who staged fine bunches of *Lilium tigrinum splendens*, *Helenium Hooperi*, *Sedum spectabile*, *Gladiolus ramosus Princess Clothilde*, *Iris*, *Anemone japonica alba*, *Rudbeckia Newmanni*, *Pyrethrum uliginosum*, *Phygelius capensis*, *Helianthus latifolius*, and Asters. The second prize was won by Mr. James Gibson, The Oaks Gardens, Carshalton, who exhibited *Rudbeckia occidentalis*, *Statice*, *Chrysanthemum maximum*, *Helianthus decapetalus*, *Aster Robert Parker*, *Lilium lancifolium rubrum*, *Rudbeckia Newmanni*, *Aster lævigatus*, *Aster amellus*, *Helianthus multiflorus plenus*, *Pyrethrum uliginosum*, and *Anemone japonica alba*. Mr. J. Hudson, Gunnersbury House, gained the first prize for a collection of eight hardy perennials, staging *Pyrethrum uliginosum*, *Rudbeckia Newmanni*, *Phlox scedling*, *Asters Robert Parker*, *A. bessarabicus*, *A. leucanthemum*, *Eryngium amethystinum*, *Helianthus multiflorus maximus*. Miss Debenham, St. Peter's, St. Albans, was second with *Aster longifolius formosus*, *Sedum spectabile*, *Solidago virgaurea*, *Aster novi-Belgii*, *Pyrethrum uliginosum*, *Gaillardia grandiflora*, *Aster novæ-angliæ*, and *Rudbeckia Newmanni*.

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair), Messrs. Jas. O'Brien, S. Courtauld, H. Williams, Hugh Low, T. B. Haywood, F. Sander, and Dr. Masters. There were no specialties among the Orchids, but there was a very fine display of bloom considering the time of year.

Wilberforce Bryant, Esq., J.P., Stoke Park, Slough (gardener, Mr. Kemp), exhibited a large pot of *Oncidium ornithorhynchum*, a mass of bloom, but it was not one piece. A cultural commendation was awarded. Messrs. Pitcher & Manda, Hextable, Swanley, had a collection mainly composed of *Cypripediums* such as *Wallertianum*, *conchiferum*, *Harrisianum*, *Pitcherianum*, *Spicerianum*, *Ashburtoniæ*, *S. pendulum*, *atro-purpureum superbum*, and others. Messrs. F. Sander & Co., St. Albans, had a number of *Cypripediums*, including the beautiful *Spicerianum magnificum*, also *Phalænopsis Lowi*, *Cattleya labiata*, *Calanthe orphanum* hybrid, *Zygopetalum rostratum*, *Cattleya Schofieldiana*, yellow variety; *Paphinia grandis*, *Oncidium Burbridgeanum*, and other good things (silver Banksian medal). Messrs. Hugh Low & Co., Clapton, had a small but very bright and varied group, in which *Vanda Kimballiana delicata*, *Cattleya superba splendens*, *Cypripidium Crossianum*, *Dendrobium formosum giganteum*, and *Cattleya speciosissima* were conspicuous (silver Banksian medal). Messrs. B. S. Williams & Son, Upper Holloway, had a bright collection in which *Dendrobium superbiens*, *Dendrobium Dearei*, *Odontoglossum grande*, *O. mirandum*, *Miltonia candida grandiflora*, and two fine pieces of *Cypripedium insigne* were very noteworthy (silver Flora medal). T. Statter, Esq., Stand Hall, Manchester (grower, Mr. Johnson), sent *Cattleya bicolor cœrulea*, which displayed a very peculiar colour contrast, the sepals and petals being greenish yellow and the lip pale mauve; also *Lælia elegans chelsensis*, and *Cattleya grandiosa splendens*. The latter, with its yellowish-green sepals and petals and pale lip deeply embossed with magenta, is very attractive. M. Wells, Esq., Broomfield, Sale (gardener, Mr. R. Hinde), sent *Cattleya Hardyana*, apparently a hybrid with *aurea* and *gigas* parentage. The apical portion of the lip are rich crimson, the side lobes nankeen yellow; the sepals and petals are rose with light veins, the former being much the deeper. C. K. Wild, Esq., Hampstead (gardener, Mr. Pallant) received a vote of thanks for *Stanhopea aurea* carrying nine flowers.

CERTIFICATES AND AWARDS.

Hymenanthera erassifolia (Messrs. Veitch & Sons).—This shrub is remarkable for the small white bead-like berries which stud the growths,

and give it a very beautiful appearance. The leaves, which are chiefly borne in tufts of three and four, are small, thick, and blunt. The sprays had been cut from the open (first-class certificate).

Rhododendron multicolor Neptune (Veitch & Sons).—A brilliant scarlet variety of great beauty. A standard about a foot high was shown, having seven clusters of bloom. There is room for many varieties of this type (first-class certificate).

Tacsonia Smytheana (Mr. W. Smythe).—A beautiful rich rose variety, very brilliant in colour, and doubtless very effective when expanded, but the flowers were not open (first-class certificate).

Chrysanthemum General Hawkes (Owen).—A Japanese with narrow, semi-tubular florets, maroon with silvery reverse; of good size and form (award of merit).

Chrysanthemum Lady Brooke (Owen).—A yellow Japanese with broad, flat florets, the lower cream, the upper ones bright yellow (award of merit).

Dracæna australis var. *rubra* (Elliott).—This differs from the type in the bronzy suffusion of the leaves. It has the same graceful appearance (first-class certificate).

Dahlia Mrs. Vagg (Rawlings).—A fine Show variety of splendid form and colour, being a rich rosy carmine (award of merit).

Apple King Harry (R.H.S.).—A tender, juicy, free bearing variety from the R.H.S.'s gardens at Chiswick (award of merit).

Apple Rivers' Codlin (Rivers & Son).—A conical variety raised from American Mother, said to be a free bearer, and keeps to March (first-class certificate).

Grape White Gros Colman (Dicksons, Limited).—This variety has berries resembling the type in size and shape, but are more sweet and juicy (first-class certificate).

Grape Chasselas Vibert (R.H.S.).—An excellent cool greenhouse and outdoor Grape (award of merit).

Adams' Early Maize (Mr. Willard).—A useful Maize, the heads being of good flavour when cooked (award of merit).

Apple Seedling No. 2 (Mr. Ross).—A well coloured variety of fair quality (award of merit).

MR. DEWAR ON MICHAELMAS DAISIES.

The subject of the afternoon paper was Michaelmas Daisies, and the reader, Mr. D. Dewar, who has done much work amongst them during the last year or two and laboured manfully, together with his colleagues on the special Sub-Committee engaged on them at Chiswick, to secure order in a mixed and confused throng of species, hybrids, and varieties. The warm thanks of every lover of this beautiful and invaluable autumn flower are due to all of them. Mr. Dewar described the collection at Chiswick as the finest that existed in any one garden, the best cultivated forms having been gathered together and grown side by side with what were presumably wildings, this affording a good opportunity for observing the remarkable advance that had been made. As indicative of the confusion which has existed amongst those grown in British gardens, he alluded to the fact that they had greatly puzzled the late Dr. Asa Gray, notwithstanding that he had made the plants a life study. There were altogether about 250 species, and of this number the United States were the headquarters of 130 to 140. He pointed out the looseness with which the term "Michaelmas Daisy" is applied. *Erigerons*, for instance, distinguishable botanically in the number of ray florets, being so called, also giving other examples. The genus, he thought, requires thorough revision. It must be recognised how freely the plants hybridise, both in a wild state and under garden culture. The Sub-Committee were drawing up popular descriptions of the varieties, which would be published in due course.

Referring to the garden value of Michaelmas Daisies he thought that any hardy flowers such as these which tended to draw autumn and spring together were deserving of close attention. As decorative plants they were of great importance, and were extremely varied in habit, from the tall *novæ-angliæ* to the Dwarf *Stracheyi*. They had companions in the Golden Rods and Sunflowers. He recommended the employment of the dwarf forms, such as *alpinus*, *acris* and *Amellus* for bedding, and another use to which Michaelmas Daisies might be put was to plant them in association with *Rhododendrons*, which, though beautiful in spring, were afterwards bare. The plants well merited good and careful cultivation. They did best in a strong, deep, well-matured soil. He advised annual division, choosing the strong outer growths, and as all increased readily by cuttings, the young shoots might be inserted in spring, leaving the stock roots all the better for the thinning. They might also be raised from seed and an interesting course of crossing pursued. All the best forms had been thus obtained. He suggested the massing of some of the selected forms, such as *Cordifolius*, *Diana*, *W. Grant*, and *Lindleyanus*, and remarked that when grown in open spaces lateral branches were pushed almost to the ground. He then gave an interesting review of the genus, illustrating his remarks with examples of the different varieties. He pointed out the wide distribution of the forms and gave a few notes on the characteristics of some of the best. He thought that a garden name ought to be found to include the whole of the hybrids.

At the conclusion of the paper Mr. W. Marshall expressed a hope that English and not Latin names would be given to the varieties, and Dr. Masters alluded to the number of butterflies infesting the flowers in autumn, a point corroborated by another gentleman. A vote of thanks concluded the meeting.



PORTSMOUTH CHRYSANTHEMUM SHOW.

THIS great Show is fixed for November 2nd, 3rd, and 4th. A balance sheet of last season's Exhibition has been received, and shows a deficit, the first for eight years. Supporters of the Society are desired to do their utmost on its behalf, and if their efforts are supported by favourable weather there is little doubt that the lost ground will be more than regained.

CHRYSANTHEMUMS IN FINSBURY PARK.

THE twelfth annual display of Chrysanthemums in this park is now open to the public daily at ten o'clock. It will be at its best some two or three weeks hence.—J. MELVILLE.

CHRYSANTHEMUMS IN BATTERSEA PARK.

WILL you kindly announce in your next issue of the *Journal of Horticulture*, that the Exhibition of Chrysanthemums in Battersea Park will be open to the public on Saturday, the 15th October, in the frame ground, near the Albert Bridge entrance?—J. J. COPPIN, *Superintendent*.

NATIONAL CHRYSANTHEMUM SOCIETY.

THE autumn Exhibition of Chrysanthemums and other flowers will take place at the Royal Aquarium on Wednesday, Thursday, and Friday, October 12th, 13th, and 14th; and it is confidently expected the display of October-flowering Japanese varieties will be very fine. The Conference meeting arranged for Wednesday, October 12th, to consider the proposed enlargement of show boards for Japanese blooms, will take place in the Library of the Royal Aquarium at 7 P.M., Sir Edwin Saunders, President, in the chair, when it is expected that Messrs. C. E. Shea, R. Falconer Jameson, E. C. Jukes, and W. Herbert Fowler, among others, will read papers or take part in the discussion. It is hoped the members of the Society will attend the Conference.

CHRYSANTHEMUMS AT IMPNEY GARDENS.

FOR some years now—in fact, as long as Mr. R. Parker has had charge of them, these gardens have been celebrated for Chrysanthemums, and judging from the fine condition of the plants when I saw them a few days since they are not likely to lose any of their prestige during the coming tournaments. The plants are somewhat tall (a feature which is characteristic of all the collections I have recently seen in Worcestershire), very strong, having stout stems, well furnished with dark green thick leathery leaves almost to the base. The buds were mostly well developed and seemingly well timed, a point which specially marks the work of an experienced cultivator, such as is Mr. Parker.

At the time of my visit (September 25th) most of the plants were in light airy houses, such as would suit them admirably. About 600 plants are grown as standards for large blooms, ten or twelve plants each being grown of all the best recognised exhibition varieties. Half a dozen good plants of Richard Parker, the new golden yellow sport from Miss Haggas, now being sent out by Mr. N. Davis I noticed. Several plants each of the following new varieties, all of which Mr. Parker thinks are very promising, are being grown:—Edwin Beckett, Mrs. E. Beckett, Miss L. Cope, Le Verseux, W. Tricker, R. C. Kingston, W. K. Woodcock, J. S. Dibbin, President Harrison, and Miss M. Wightman. Most of these are likely to be seen upon the exhibition boards in November. A new American variety named Mrs. P. Rider, bronze and yellow, is just expanding its florets, and gives promise of being a valuable addition to our list of October-flowering varieties. It is very dwarf with good foliage, and produces brightly coloured large flowers. Mr. Parker thinks highly of it.

In addition to the 600 standards, about 100 plants are grown as large free bushes for decorative purposes. These average about 3 feet in height and 2 feet in diameter, are clothed with good foliage down to the pot, and appear to be capable of carrying twelve to twenty fine flowers each. One well known and popular variety (E. Molyneux) will this season be absent from Mr. Parker's stands. The reason of this is that shortly after the final potting an inexplicable disease broke out amongst the bushes and standards of this variety, causing the leaves to curl and the plants to assume a stunted starved appearance. The same thing has been noted in previous years by other gardeners and with other varieties, but it is generally limited to one variety in each case. It would be interesting to know if anyone can give a cause or cure for this.

PARKFIELD, WORCESTER.

At this fine place the gardens are well managed. The glass houses are very numerous, and perhaps the finest feature of them is the grand collection of Orchids. At present, however, my subject is only Chrysanthemums. Of these about 500 are grown as standards for large blooms, though not for exhibition.

The plants, though not so strong as those at Impney, are still very good, and will undoubtedly produce fine flowers. No particular attempt appears to have been made to time them so as to have early and late

flowering varieties in a special period, as has been done very successfully at Impney; consequently many are late, and the flowering season will thus be somewhat lengthened.

WITLEY COURT GARDENS.

Here Chrysanthemums are a great feature, about 800 plants being grown as standards with three blooms each. They are in most cases very tall but somewhat lacking in strength, the wood being less stout and the foliage smaller than of those at Impney. Many of the Japanese varieties have been allowed to go on to the terminal blooms, hence they will be rather late, smaller than if crown buds had been taken. The finest feature of this collection is about 100 plants of the "Queen" family. They are strong and will give good flowers.

ABBERLEY HALL.

On looking over the extensive and well kept gardens here one must come to the conclusion that failures are nowhere to be seen. That high culture prevails throughout is evident. Under such circumstances it would be strange if Chrysanthemums were only second rate. Although no exhibiting is done, the flowers being required only for home display, the plants approach more closely to the Impney standard of excellence than any others I saw in the county. About 500 are grown as standards and 200 as bushes. Anna Hartzhorn is now in flower, carrying fine deep blooms. There will be a grand display here during November.—W. K. WOODCOCK.

REVIEW OF BOOK.

A Manual of Chemical Technology. By RUDOLF VON WAGNER, translated and edited by WILLIAM CROOKES, F.R.S., from the 13th Enlarged German Edition as remodelled by Dr. Ferdinand Fischer London: J. & A. Churchill, 11, New Burlington Street.

THE publication of an English edition, revised by a competent authority, of Wagner's colossal work on chemical technology will be welcomed by students of all classes, and not the least by those who are animated by a laudable desire to acquire a sound basis of scientific knowledge. It is important in estimating the value of such a book as this to note that it is not one dealing with theories and general laws, but one abounding in practical information on a wide range of subjects, and therefore a real help to those who aspire to something more than a superficial acquaintance with the enormous field that is embraced in the term "chemical technology." It will be gathered that it is far from being limited in its scope to information on horticulture or botany, nevertheless its pages are a store from which few horticulturists who aim at a combination of scientific and practical knowledge can fail to draw with advantage. The character of a closely printed volume of 968 pages, embellished with nearly 600 engravings, cannot be conveyed with anything like full justice by a few references and extracts; nevertheless it will be well to refer to some points of special interest to horticulturists in order to give some idea of its general usefulness.

The work opens auspiciously with a consideration of fuel, and on the first page is a table showing the respective heat values of wood, peat, lignite, coal and anthracite. They are given in thermic units, and are as follows:—Wood, 4100; peat, 4500; lignite, 5700; coal, 8000; and anthracite, 8200. The last-named material has therefore a double advantage in its high heat value and non-smokeless character, and its use in gardens may be expected to extend. The information on thermometry that follows is of considerable interest. The first spirit thermometer (Moriani's) was, we learn, made in 1640, and it was Fahrenheit (1709) who first used mercury. Tables are given showing how the scales of Fahrenheit, Celsius (Centigrade), and Réaumur can be converted into each other. The recognised value of wood charcoal as a plant food will lend interest to the chapter on the manufacture of charcoal, although it is not with this object that the subject is so fully dealt with and so freely illustrated. The same remarks apply to heating.

A considerable amount of valuable information is scattered through the volume on the substances and preparations used as food for plants. Ammonia is dealt with at great length, and both inorganic and organic sources of it are pointed out. Of the latter coal is indicated as the most important. "In the production of coal gas and coke," we read, "it yields up its nitrogen as ammonia, which is obtained as gas liquor. The ammonia of the gas-water may be utilised in various ways. Where fuel is cheap, and crude ammonium sulphate, or crude sal-ammoniac, a marketable article, the gas-water may be at once neutralised by an acid, and the liquid thus obtained evaporated. This is done in a sal-ammoniac factory at Liverpool, where, during the colder season of the year, 300 cwt. weekly of this salt are prepared. Generally, however, the gas-water is submitted to a process of distillation, and the ammonia evolved converted into sulphate, as in Mallet's apparatus, or into sal-ammoniac, as in Rose's apparatus." The value of urine as a source of ammonia is pointed out, and it is also stated that "by the destructive distillation of animal substances, such as bones, hoofs of horses, refuse horn, skin, hides, decayed meat, &c., there is obtained a series of products, among which ammonium carbonate prevails. . . . The organic matter of these substances contains from 12 to 18 per cent. of nitrogen, the organic matter of bones contains 18 per cent. of nitrogen, and, as the organic matter amounts to about one-third the weight of the bones, these contain about 6 per cent. of nitrogen." Bones, therefore, may serve us as a source of nitrogen as well as a source of phosphorus. The methods of preparing sulphate of ammonia, one of our most valuable

fertilisers, are numerous. We learn that it is met with native in the mineral known as mascagnin on Vesuvius and Etna, in larger quantities in the boracic acid of Tuscany, and also in Boussingaultite, a mineral. The methods of preparation from the ammoniacal water of gas-works, lant (stale urine), the products of the dry distillation of bone, by the aid of sulphuric acid, or by double decomposition by means of gypsum or iron sulphate are described. It is pointed out that "ammonium sulphate is, industrially speaking, far the most important of the ammonia salts, because, besides being very largely used in artificial manure mixtures, and by itself for the same purpose, it is extensively employed in alum making, and is the starting point of the preparation of ammonium chloride, ammonium carbonate, liquid ammonia, and other similar products."

Phosphates, so valuable as sources of plant food, provide an interesting chapter. In superphosphate the phosphoric acid present in natural phosphates is rendered soluble by mixture with sulphuric acid. "The most important materials for the manufacture of superphosphate are the phosphorites. That occurring in large masses in Estremadura is nearly pure phosphate, but large quantities are met with in commerce which contain only 60 per cent., along with considerable quantities of silica and calcium chloride. Of less value are the staffelites from the value of the Lahn. The Canadian phosphorite contains :

Tricalcium phosphate	91.20
Calcium fluoride	7.60
Calcium chloride	0.78
Sand... ..	0.90
	100.48

Coprolites, the fossil manure of saurians, are found in the lias in Norfolk, Suffolk, Cambridgeshire, &c., in England, and near Helmstadt in Germany. A sample of Cambridge coprolites contained :

Moisture	0.12
Organic matter and combined water... ..	5.61
Silica	0.18
Carbon dioxide	6.50
Phosphoric acid... ..	30.21
Lime	49.01
Fluorine	3.08
Alkaline salts	5.29
	100.00

The materials are finely ground and mixed with the requisite quantity of sulphuric acid in pits provided with agitators. The mixture is rendered dry by the combination of the calcium sulphate with water, and is then broken up." The method of determining the soluble phosphoric acid as accepted at a meeting of agricultural chemists is given, with a considerable amount of other information ; also an illustration of the method by which fat is extracted from the bones by means of benzene. Guano, kainite, gypsum, nitrate of potash, and nitrate of soda are referred to at length ; nor will the information that is supplied on the preparation of potash from vegetable matter, supplemented as it is by tables showing the respective potash value of different woods, fail to receive earnest study.

Amongst the uses of sulphate of copper, to which the horticulturist turns with interest, the editor has omitted to allude to the large scale on which it is now utilised for the destruction of injurious fungi. Experiment proves that in combination with lime this valuable salt is a powerful antidote to the dreaded Potato disease, and there is every likelihood of the demand for it for this purpose developing largely.

Vines and wine making form a very interesting chapter, and not less so is that on starch and dextrine, introducing as it does our valuable friend the Potato. It may interest some readers to see the constitution of Potatoes as given :—

	Newly dug Potatoes.	Potatoes dried at 100°.
Water	75.1	—
Albumen	2.3	9.6
Fatty matter	0.2	0.8
Cellulose	0.4	1.7
Salts	1.0	4.1
Starch	21.0	83.8

Illustrations show the starch granules and the cells of the tuber, while the method of drying the starch is treated at length ; but into this and countless other features space will not permit us to enter.

The interest of the book to horticulturists is far from exhausted by these few brief references, and it may safely be said of this magnificent work that money devoted to its purchase is "an investment and not an expenditure."

ASTER DIPLOSTEPHIODES.

THIS fine and somewhat rare Aster, of which we give an engraving (fig. 43), was exhibited before the Floral Committee of the Royal Horticultural Society on July 26th by Wm. Marshall, Esq., of Bexley Heath, and a first-class certificate awarded for it. That it is so seldom

seen in gardens is no doubt to be accounted for by the difficulty experienced in its cultivation in some parts of the country. Described in 1836 by De Candolle in his "Prodromus" under the name of *Heterochaeta diplostephioides* and figured in the "Bot. Mag.," t. 6718, it would have been frequently met with could it be regarded as a true perennial in most gardens. This is not so, however, as in many places it proves to be only a biennial. It seems to be perennial at Bexley Heath, and at the Royal Gardens, Kew, and in at least one garden in the vicinity of Manchester. In several instances which have come within my notice it has not, however, proved so satisfactory, and has consequently been discarded. This appears to be a common occurrence with many plants



FIG. 43.—ASTER DIPLOSTEPHIODES.

from the Himalayas, of which *A. diplostephioides* is a native. Many of them are very fastidious in their ways, and while flourishing in some gardens are failures in others.

A. diplostephioides is seldom catalogued, and seeing it offered by a Cheshire firm a few years ago I sent for a plant, but was informed that the stock had been raised from seed, and that the plant had not proved hardy with them and could not be supplied. Seed was offered six or seven years ago by a well-known Ipswich seedsman, but this species has not proved satisfactory with him either. *Aster diplostephioides* grows from 16 to 24 inches in height and produces beautiful flowers of large size, in some cases nearly 4 inches in diameter. The ray florets are bright blue purple with a bronzy coloured zone and a blackish purple disc. It is to be hoped that its successful culture in some gardens may lead to it being more frequently seen.—S. ARNOTT.

INTERNATIONAL HORTICULTURAL EXHIBITION.

DINNER AND PRESENTATION TO MR. H. E. MILNER.

ON Thursday evening last a complimentary dinner was given to the Chairman of the Executive Committee of this Exhibition. About a hundred persons attended, including Mr. H. Percy Dodson (Chairman), Sir Charles Tupper (High Commissioner for Canada), Baron de Reuter, Baron G. de Reuter, Major Isaacs, Sir John Heron-Maxwell, Professor Stewart (Linnean Society), Col. Cody, Lieut. Dan Godfrey, Mr. Hays, Mr. Johnson (Treasurer), Mr. G. A. Loveday (Secretary); also, among horticulturists, Messrs. John Lee, W. Paul, T. Manning (representing Messrs. Veitch), W. Bull, A. Waterer, P. Barr, H. & A. Turner, H. Williams, F. Q. Lane, J. & H. Laing, W. Dreer, (Philadelphia), Owen Thomas, H. Herbst, A. F. Barron, R. Dean, W. Elphinstone, G. Wythes, and J. Wright.

In proposing the health of Mr. Milner, Mr. Dodson said the present Exhibition was got up in a period of about six weeks, the death of the Duke of Clarence having put a stop to the projected United Service Exhibition which was originally intended. All the work then devolved on Mr. Milner, who kindly offered his services. The undertaking had been most admirably managed, and during the whole time that the Horticultural Exhibition had been opened, thanks to that gentleman's good management, not a jar had occurred. On behalf of the whole Executive he had to express their grateful thanks to Mr. Milner, who in all respects had shown himself so thoroughly an English gentleman; and he asked his acceptance of a handsome silver salver, to which all the officials of the Exhibition had subscribed, as a token of respect.

Mr. Milner, in returning thanks, said the presentation was a total surprise to him, and he should regard it as a pleasant memento of the harmony and unity that had prevailed throughout the staff. All the officials of the Horticultural Exhibition had but one object in view, the success of the Exhibition, which had been gigantic. This was due to the great efforts of the Chairman, Directors, and members of the staff, who had ever been ready to help one another, from the highest to the lowest. The most distinguished scientific men and the noblest of the land had also lent their support, the Royal Family having privately visited the place no less than seven times. The desire of the Directors had been to encourage gardening and promote a love for it amongst all classes. The number of visitors up to the present time was nearly two millions. The Exhibition had been especially appreciated by ladies, and there had also been no accidents throughout the season. He felt deeply the compliment that had been paid him, and the remembrance of it would last through his whole life. Mr. Milner's excellent speech was much applauded.

The toast of "The Board of Directors and Officials of the Exhibition" was submitted by Sir Charles Tupper, who remarked that nothing had struck foreign visitors more than the fact that so remarkable a floral Exhibition could be brought together in this great smoky City. The people of England at large, as well as of London, were greatly indebted to Mr. Milner and his colleagues for all they had done in providing this beautiful Exhibition, and there would, unquestionably, be a widespread feeling of satisfaction if it were possible to continue it for another year. (Applause.) The toast was acknowledged by Mr. W. Hays and Mr. A. Johnson. Other toasts, which included "The Dinner Committee," proposed by Professor C. Stewart, and responded to by Mr. R. Dean; and "The Chairman," proposed by Sir J. Heron-Maxwell, and suitably acknowledged by Mr. Dodson, brought the proceedings of a pleasantly spent evening to a close.

LIST OF AWARDS TO SEASON EXHIBITORS.

THE following awards have been made to the permanent exhibitors at the International Horticultural Exhibition:—

Group A, class 1.—W. Richardson & Co., Darlington, gold medal; Mackenzie & Moncur, Edinburgh, silver-gilt medal; Compton and Fawkes, Chelmsford, silver medal; W. Duncan Tucker, Tottenham, silver medal; S. Deards & Co., Limited, Harlow, silver medal; E. Newton & Co., Hitchin, bronze medal for plant houses, vinerys, Peach houses, forcing houses, stoves, fruit rooms, frames, and pits. Class 2.—S. Deards & Co., Limited, Harlow, certificate; E. Newton & Co., Hitchin, certificate; Newton, Chambers & Co., Sheffield, certificate; E. Newton & Co., Hitchin, certificate for systems of glazing and ventilation. Class 3.—Thames Bank Iron Company, London, gold medal; Newton, Chambers & Co., London, silver-gilt medal; John Jeffreys, London, silver medal; W. Richardson & Co., Darlington, silver medal; John Watson, St. Albans, bronze medal for methods of heating, including hot-water boilers.

Group B, class 4.—Ransomes, Sims, & Jefferies, Limited, Ipswich, gold medal; A. Shanks & Co., London, silver medal for lawn mowers in hand or horse machines. Class 5.—Newton, Chambers & Co., Sheffield, silver medal for garden rollers. Class 6.—Merryweather & Sons, London, gold medal; Shand, Mason & Co., London, gold medal; J. H. Heathman and Co., London, silver medal; Wilson & Sons, Limited, London, silver medal; Sphincter Grip Armoured Hose Company, Limited, London, bronze medal for water barrows, syringes, pumps, and spray distributors. Class 8.—Joseph Davis & Co., London, silver medal; R. Springate & Co., London, bronze medal; Joseph Davis & Co., London, certificates for thermometers and barometers. Class 9.—Joseph Davis and Co., London, silver medal for rain and snow gauges.

Group C, class 10.—A. Maertons, London, silver medal; Gourrock Rope Co., Greenock, certificate; John Unite, London, certificate; Chas. Limare & Sons, Fecamp, certificate for garden tents.

Group D, class 15.—G. Michieli, Venice, silver medal for ornamental ironwork for conservatories and greenhouses. Class 16.—David Rowell and Co., London, gold medal; the Economic Fencing Co., London, silver medal for ornamental wirework, trellises, arches, apiaries, and aviaries. Class 17.—The Economic Fencing Co., London, silver medal for fences, gates, and tree guards.

Group E.—Corry & Co., London, bronze medal; W. Clibran & Son, Altrincham, bronze medal; Jos. Bentley, Barrow-on-Humber, bronze medal; Jos. Bentley, Barrow-on-Humber, bronze medal; James George, London, bronze medal; B. S. Williams, London, certificate; B. Hembrey and Co., London, certificate; G. Shearod & Co., London, certificate; J. Pinches, London, certificate; W. Clibran & Sons, Altrincham, certificate; Jos. Bentley, Barrow-on-Humber, certificates; James George, London, certificate; Charles Judson, London, certificate; W. Richardson & Co., Darlington, certificate for shadings, paints, labels, sticks, manures, silver sand, glass, weed-killers, soils, mats, insecticides, and fumigating materials.

Group F.—The Permanent Nitrate Co., London, silver medal; J. Waddell & Co., Greenwich, silver medal; W. Wood & Son, Wood Green, bronze medal; James George, London, certificate; the Stott Fertiliser and Insecticide Distribution Co. (Limited), London, certificate; W. Colchester, Ipswich, certificate; W. Wood & Son, Wood Green, certificates; G. W. Davis, London, certificate; the Horticultural Supply Co., London, certificate for Orchid and other peats, fuel for general horticultural purposes, fertilisers and artificial manures.

Group G, class 32.—Pulham & Son, London, silver medal; Dick Radclyffe & Co., London, silver medal for rockwork built in natural stone and artificial material. Class 31.—Dick Radclyffe & Co., London, silver medal; Charles Williams, Hammersmith, bronze medal for portable and permanent ferneries.

Group H, class 33.—R. Sankey & Son, Nottingham, silver medal; W. S. Iles, Camberwell, silver medal for garden pottery. Class 34.—F. Rosher & Co., London, gold medal; Pulham & Son, London, gold medal; Ernest Wahliss, London and Vienna, silver medal; Ardeshir and Byramji, London, silver medal; E. C. Fratelli Lapini, Florence, silver medal; Doulton & Co., London, silver medal for statuary, fountains, vases, edgings, &c.

Group I.—W. Barron & Son, Barrowash, silver medal; Jesse Martin, Great Totham, silver medal for tree transplanting machines and tree tubs.

Group K.—Ransomes, Sims & Jefferies (Limited), Ipswich, certificate; J. Kelly, London, certificate; J. Watson, St. Albans, certificate; P. Mayfarth & Co., Frankfort, certificate; The Stott Fertiliser and Insecticide Distribution Co. (Limited), London, certificate for new or patent inventions among garden requisites.

Group L.—L. Farina & Co., London, silver medal; Madame Goffton Salmond, Norwood, silver medal; E. Bombois, London, certificate; Chas. Williams, Hammersmith, certificate for miscellaneous decorative requisites, such as bouquet holders, papers, tubes, &c.

Group M, class 43.—P. Mayfarth & Co., Frankfort, silver medal for pumps and methods of irrigation. Class 41.—Gower, Dodson & Co., London, agents to Bulgarian Government, gold medal for perfumes.

Group N, class 44.—Jarman & Co., Chard, Somerset, gold medal for models of produce from seeds provided by the exhibitor.

Group O, classes 52 to 55.—Australian Irrigation Colonies, London, silver medal for the general improvement of grounds. Class 52.—Reid and Bornemann, Sydenham, silver medal for a design for the laying out of a typical estate of 100 acres. Class 53.—Van Hulle, Ghent, silver medal; T. Mawson, Windermere, silver medal for designs for the improvement of grounds attached to private residences.

Group P, class 56.—Geo. Cadell, silver medal, for an essay on the progress of gardening since 1886 to date of the last International Horticultural Exhibition.

Sundries.—B. S. Williams & Son, Upper Holloway, gold medal; Compton & Fawkes, Chelmsford, silver medal; J. E. & S. Spencer, London, gold medal.

FRUIT AND POTATO EXHIBITION.—OCTOBER 5TH, 6TH, AND 7TH.

THE Exhibition that opened at Earl's Court on the 5th inst. is in many respects one of the most important of the series held there during the present season. The bringing together of a representative collection of hardy fruit is much in itself, but in alliance with a similar Show of Potatoes its interest and value are largely increased. With the little time at our disposal for dealing with the collective display, general remarks must be brief. It should be noted, however, that alike in magnitude and quality the twin Exhibition is a magnificent one, and it is not easy to say which portion of it possesses the greater interest. Apples are magnificent, there being an enormous number of dishes of very high quality, and Potatoes are also splendid.

FRUIT AND VEGETABLES.

Class 1 is for a collection of Apples, kitchen and dessert, six fruits of each variety; and Messrs. Bunyard & Co. win with a magnificent contribution, comprising 100 dishes. The examples of Gascoigne's Seedling, Golden Spire, Warner's King, Lord Derby, Bismarck, Norfolk Dumpling, Ecklinville, Grenadier, and Lady Sudeley are superb. The second prize goes to the English Fruit and Rose Company for a similar

number of dishes, but the fruit is hardly so heavy as that from Maidstone. Mr. J. Scott, Crewkerne, is third.

For a collection of Pears, six fruits of each, Mr. Becker, 13, Beresford Street, Jersey, is first with forty-eight very fine dishes of leading varieties. Mr. G. Woodward, Barham Court Gardens, Teston, Maidstone, is second; and Mr. A. J. Thomas, Sittingbourne, third.

Mr. Woodward shows some grand fruit in the amateurs' class for fifty dishes of Apples, and is an easy first. The Queen, Cox's Pomona, Queen Caroline, Small's Admirable, Washington, Stone's Nonesuch, Emperor Alexander, Warner's King, and others are splendid. Mr. Turton, Reading, is second, with smaller but clean well-coloured fruit; and Mr. Goldsmith, gardener to Sir E. Loder, Horsham, third. Mr. J. Mackenzie, Lintern Park, Maidstone, wins with twenty-four dishes, most of the fruit being large, clean, and full of colour. Mr. Smith, Loddington, Maidstone, is second, and Mr. Turton third, both with very fine dishes. Mr. Woodward has another magnificent exhibit in the class for twelve dishes, all being heavy and rich; Bismarck, Washington, The Queen, and Stone's are grand dishes. Mr. Austin Killick, Maidstone, is second, with smaller but nevertheless fine dishes; and Mr. G. Chambers, Maidstone, third. His samples of Pomona Apple are very noteworthy. Pears, twelve dishes, are best shown by Mr. Goldsmith, who wins with a heavy collection. Mr. Offer, Crawley, is second; and Mr. Nicholson, Chingford, third. Mr. Smith, gardener to Lady Frances Fletcher, Yalding, wins with six dishes; Messrs. C. West, Landford, Salisbury, and J. G. Dean, gardener to L. Leveson Gower, Esq., being second and third.

The collections of vegetables bring out some really splendid produce. With a trophy arranged for effect Mr. Pope, Newbury, is first with a magnificent display, his Carrots, Beet, Leeks, Potatoes, Celery, and Onions being very fine. Mr. Gibson, Carshalton, is second, also with a very fine display. Mr. Wilkins, gardener to Lady Theodore Guest, Henstridge, is first with a collection of twelve dishes, his Lyon Leeks, Solid White Celery, and New Intermediate Carrot are very fine. Mr. Lye, gardener to W. H. Kingsmill, Esq., Newbury, is a good second with many grand dishes. Mr. Friend, gardener to the Hon. P. Glyn, Rooksnest, Godstone, is third.

Miscellaneous displays of fruit are one of the best features of the Show. Messrs. J. Veitch & Sons have a grand collection of Apples, Pears and Plums, comprising 300 dishes (gold medal). Mr. H. Becker, Jersey, exhibits some enormous Pears, Doyenné Boussoch, weighing 24 ozs., Buerré de l'Assomption 21, Duchesse d'Angoulême 24, Grosse Calebasse 22, Belle de Jersey 23, Catillac 30, King Edward 19, Doyenné du Comice and Conseiller de la Cour 18 each (silver medal). Messrs. H. Lanc & Sons stage about ninety dishes of Apples and a collection of Filberts (silver medal). Messrs. Jarman & Co. have about seventy dishes of Apples, and fine specimens of Somerset Hero and other Onions (silver medal). Mr. Meads, gardener to G. Loveday, Esq., has a good basket of Pitmaston Duchess Pear. Messrs. S. Spooner & Sons contribute about seventy dishes of Apples and Pears, chiefly the former. Messrs. T. Rivers & Son have staged a number of orchard house trees, also some splendid dishes of fruit (gold medal). Messrs. C. Lee & Sons, Hammersmith, have nearly 100 dishes and baskets, mainly Apples large and well coloured. Mr. W. Taylor, Hampton, has forty dishes of Apples. Mr. W. A. Trotter, gardener to F. Ricardo, Esq., Bromesborough Place, Ledbury, exhibits a box of evaporated fruit, also Peas and French Beans (silver medal). Mr. G. Reynolds, Gunnersbury Park, has a splendid collection of Melons. Mr. Bythway has a few dishes of Apples.

Mr. W. Iceton has baskets of market Grapes. A splendid collection of Apples and Pears, comprising about 150 baskets and dishes comes from Messrs. Cheal & Son, the first being of splendid quality (silver-gilt medal). Mr. Miller, gardener to Lord Foley, Esher, has a small collection, and Mr. Watkins contributes cider and ornamental Apples. Mr. Woodward receives a silver-gilt medal for some splendid Peaches and Nectarines grown in the open. Mr. S. T. Wright, gardener to C. Lee Campbell, Esq., has nine bunches of Grapes (silver medal). Messrs. Bunyard & Co. have a splendid display of fruit outside the annexe that must not be missed (silver-gilt medal).

POTATOES.

In Classes 1 and 2 the prizes are offered by Messrs. Sutton & Sons, Reading. The first is for twelve dishes of Potatoes, distinct varieties, nine tubers of each. There are ten entries, and the competition is very keen. The leading prize, however, goes to Mr. J. H. Ridgewell, Cambridge, for splendid examples of Beauty of Hebron, Fidler's Reading Giant, Edgecote Purple, Pink Perfection (very fine), The Dean, Satisfaction, Mr. Bresee, Perfect Peachblow, Lord Tennyson, Snowdrop, Queen of the Valley, and Come to Stay. Mr. W. Pope, Newbury, is second; Mr. A. V. Cross, Banbury, third; Mr. W. Kerr, Dargavel, Dumfries, fourth; and Mr. G. Galt, Oxford, fifth. For nine dishes, distinct varieties, Mr. James Simkins, Shillington, Hitchin, is first; Mr. A. Coombes, Dudley, second; Mr. R. Lye, gardener to W. H. Kingswell, Esq., Newbury, third; Mr. C. J. Waite, Esher, fourth; and Mr. A. V. Cross, fifth.

For six dishes of distinct varieties Mr. J. Simkins is first, showing splendid tubers of Reading Giant, Reading Russet, Sutton's Seedling, Abundance, Windsor Castle, and Satisfaction. A silver medal was awarded for Reading Giant as being the best dish of Potatoes exhibited in the competing classes. Mr. W. Pope second, with smaller but even tubers; Mr. J. H. Ridgewell third; Mr. R. Lye fourth; and Mr. A. Chopping, Milton, Sittingbourne, fifth. Mr. G. Galt secures the first

prize for three splendid dishes of London Hero, Abundance, and Satisfaction. Mr. A. Chopping second; Mr. R. Lye third; and Mr. J. H. Ridgewell fourth.

For three dishes of coloured round Potatoes, Mr. J. H. Ridgewell is placed first for grand specimens of Reading Russet, Vicar of Laleham, and Pink Perfection. Mr. A. V. Cross, secures a second position. Mr. J. Friend, third; and Mr. R. Lye fourth. White kidney varieties are well shown. Mr. J. H. Ridgewell is first for three dishes of distinct varieties, nine tubers each, showing Snowdrop, Reading Giant, and Fidler's Purity in grand condition. Mr. James Lye, Market Lavington, is second, and Mr. Chopping third. Mr. J. H. Ridgewell is first for coloured kidneys.

Some splendid tubers of white round varieties are staged. In the class for one dish Mr. T. Wilkins, is first, showing magnificent samples of London Hero; Mr. J. Simkins second with Windsor Castle, and Mr. J. H. Ridgewell third. There are twenty-four entries in this class. Mr. J. Simkins has the best dish of any coloured round variety. For the single best dish of any white kidney Potato, nine tubers, Mr. J. H. Ridgewell was first with beautiful samples of Snowdrop; Mr. E. Chopping second, Mr. W. Pope third, and Mr. G. Wheeler, Newbury, fourth. Mr. T. Tooley, 22, Albert Street, Banbury, had the best dish of any coloured kidney, showing Mr. Bresee. Mr. W. Pope was a close second with Edgecote Purple, Mr. T. Wilkins third, and Mr. Ridgewell fourth.

In the class for six dishes of Potatoes introduced into commerce since January, 1886, prizes offered by Messrs. Sutton & Sons, Mr. J. Simkins is awarded first honours. Mr. J. Ridgewell second; Mr. J. Lye, third; Mr. A. V. Cross, fourth; and Mr. R. Lye, fifth. For three dishes of distinct varieties, Mr. J. H. Ridgewell is first; Mr. T. Tooley is second; and Mr. E. G. Wiles, Oxford, third.

Medals and certificates are awarded for various seedling Potatoes not in commerce. In the class for a single dish of seedling white round, Mr. J. Lye secures a bronze medal for a variety named Advance, a cross between Reading Russet and Schoolmaster. Mr. C. Ross gains a first-class certificate for Recruit, a clean round tuber, and Mr. E. Wiles a similar honour for Oxford Surprise (Chancellor x Sutton's Abundance). Mr. T. Laxton, Bedford, is also awarded a certificate for Murphy (Scotch Champion x Reading Hero), a medium-sized tuber of good shape. For seedlings of coloured round varieties, Mr. W. Kerr, Dumfries, gains a certificate for a seedling from Abundance. Similar honours go to Mr. Wiles for Pink-eyed Perfection (Abundance x Reading Russet), and to Mr. H. Fletcher, Annesly, Notts, for Lillic Langtry, a seedling from Lord Tennyson. For seedlings of any white kidney variety, three certificates are awarded as follows:—Mr. E. Wiles for Oxford Geart; Mr. C. W. Howard, Canterbury, for Lord Wolseley (Woodstock Kidney x Edgecote Seedling); and Mr. C. Ross for Rising Star, an even-shaped kind. Mr. J. H. Ridgewell secures a bronze medal for New International, a midseason variety. Mr. E. Chopping is awarded a similar honour for Lord Raglan (Woodstock Kidney x Blanchard). Mr. W. Kerr has a certificate granted for a seedling from Abundance. Messrs. Laing & Sons, Forest Hill, are awarded a first-class certificate for Mammoth Red Celery, a magnificent variety.

Messrs. Sutton & Sons, Reading, stage a large number of dishes of magnificent seedling and other Potatoes, possibly one of the finest collections ever brought together. The tubers were remarkable for their even size and bright, clean appearance. Messrs. Sutton also have a large number of miscellaneous vegetables, including Carrots, Marrows, Kohl Rabi, Parsnip, Beet, Onions, Leek, and Savoy. A gold medal was awarded for this fine exhibit. Messrs. W. W. Johnson & Sons, Boston, stage a large collection of well grown Potatoes (bronze medal), and Mr. C. Fidler, Reading, gains a silver medal for a collection of fine tubers. Messrs. Davidson & Sons, Leicester, secure a bronze medal; and Mr. W. Kerr, Dumfries, a silver medal for Potatoes. A silver-gilt medal goes to Mr. E. Chopping for a similar exhibit.

MISCELLANEOUS.

Messrs. W. Paul & Son, Waltham Cross, half fill the annexe near the main entrance with a splendid collection of shrubs and Conifers in pots, and Messrs. Cheal & Son have a stand of hardy flowers and fruit. Mr. H. Wrede, Luneberg, Germany, has a collection of Pansies (silver medal). Messrs. B. S. Williams & Son are represented by a display of Crotons and other foliage plants. Mr. Geo. Wythes has a group of early Chrysanthemums. Messrs. J. Laing & Sons have a beautiful group of Begonias well displayed (gold medal). Mr. Chas. Turner stages numerous boxes of good autumn flowers (silver medal), and Mr. C. Holder a mixed group (bronze medal). Messrs. E. D. Shuttleworth & Co. have a group of Palms and foliage plants (silver-gilt medal). Messrs. W. Barron and Co. stage sprays of ornamental trees and shrubs. Messrs. Barr and Son exhibit their Anti-blight and a beautiful assortment of hardy flowers. Prizes for Sunflowers and Michaelmas Daisies go to Messrs. Barr & Son, Mr. Davis, and Mr. G. H. Sage. Mr. Chard receives a silver medal for table decorations.

Mr. H. Deveriel, Banbury, is awarded a silver-gilt medal for a splendid collection of Onions, Leeks, and Carrots; and a similar award goes to Vilmorin, Andrieux & Co., Paris, for Celery and Endive. Mr. Ryder, Orpington, Kent, stages a collection of Tomatoes (silver medal), and Messrs. R. Veitch & Son, Exeter, show a basket of Prodigious Potato, a remarkably heavy cropper of first-rate quality, judging from cooked samples also exhibited.



FRUIT FORCING.

Vines.—*Early Forced Vines in Pots.*—To have ripe Grapes in March the Vines should be started not later than the early part of November. The Vines must be selected from those which have been started early in the year as cut-backs, and grown through the spring and summer in abundance of light so as to secure sturdy, thoroughly solidified canes, with plump buds, the wood being brown and hard. Strong canes are not necessarily the best for fruiting in pots, certainly not for early forcing, but they must be stout, short-jointed, and well matured in the wood, and the eyes must not be pointed or flat, but rounded and rather prominent. The varieties also should consist of the best forcers. White Frontignan never fails to show plenty of fruit on well grown canes, and it sets, swells, and perfects earlier than any other, and possesses a rich Muscat flavour. Foster's Seedling can hardly be grown at all without fruiting freely. It forces first-rate, ripens about the same time as the Black Hamburgh, and has a sweet, juicy, but not any Muscadine flavour. Black Hamburgh answers well for very early forcing, and, unless over-burdened with fruit and hungred or over-fed, finishes well. Madresfield Court produces fruit freely on well-matured canes, its oval berries show to advantage beside Black Hamburgh, and the flavour of the ripe Grape is very agreeable, sometimes having a slight trace of Muscat. Those four varieties we have found thoroughly reliable, and under good management they will produce Grapes fit for the table in March. It is no use, however, attempting to force indifferent canes, and the best must have a house that will catch every ray of light, as a lean-to or three-quarter span facing south, and plenty of hot water pipes, with due provision for ventilation. It is also a great aid in forcing to keep the glass free from ice. This can be effected by fixing a 1½ inch wrought iron galvanised pipe along the bottom of the rafters about 6 inches from the head of the front lights, and another at a similar distance lower down the roof than the opening of the top lights, the pipes being taking longitudinally of the house. The heat given off by these pipes is advantageous for ventilation purposes and to secure a more even temperature. The Vines being in their fruiting pots, say 12-inch, will only need the drainage seen to, and if defective rectified, but if they are in small pots they may be shifted into larger, yet only so increased in size as to admit of about an inch of soil all round the ball, which should only be loosened a little at the sides, and the fresh soil must be rammed as compact as the ball. Turfy loam, free from wireworm, torn up to a convenient size, with a pint of steamed bone meal to every bushel and a similar proportion of wood ashes form a suitable compost. The advertised fertilisers are excellent, and may be used instead of the above substances, following the instructions supplied with each. It is better not to be under the necessity of potting the Vines, yet it may be done without prejudice to the forcing. Provided the soil is moist enough, so as to keep the roots healthy, no water should be given, and the Vines are best kept no more than just damp at the roots till they start into growth.

Where there is a bed of about 3 feet depth and 4 feet width, 9-inch pedestals of loose bricks may be erected at 2½ feet to 3 feet distance apart and in the centre of the bed, and carried up so high that when the pots are placed upon them their rims will be slightly higher than the pit edge. The pit being filled with Oak or Beech leaves a gentle warmth will be afforded the Vines, and a genial moisture pervades the house, the bottom heat accelerating root formation, the transmission of steady supplies of nourishment, and this, with the congenial condition of the atmosphere, induces the canes to break well and to progress satisfactorily. The roots also pass from the pots into the leaves, deriving support—mainly nitrogenic and potassic elements—beneficial to the growth of the Vines and the production of Grapes. The temperature at the roots must not exceed 65° to 70° at the start, raising it by adding fresh material to 75° when the Vines are fairly started. The Vines should be placed in position by the middle of this month, and have a temperature of 50°, which will promote slight activity in the sap, and on November 1st the temperature must be kept at 50° to 55° by artificial means until the buds swell, then gradually increase it to 60° to 65° when they are breaking. The canes should be depressed to a horizontal position to secure their breaking regularly, and the house and canes will need damping every morning and afternoon, but not before the Vines are started.

Early-forced Planted-out Vines.—These may be forced to ripen the Grapes in March or early in April. It is, however, one of the worst practices in forcing Vines, and is little followed now, as the thick-skinned Grapes meet most requirements up to May, and where thin-skinned Grapes are desired in March and April it is better to provide a supply by growing Vines in pots. Nevertheless, pot-vine Grapes are not equal to those produced by Vines well established in inside borders, yet the Vines wear out quickly, as the consecutive early forcing is a great strain on their energies through the growth having to be made at the dulllest, and the rest taken at the hottest period of the year. It is extremely difficult to preserve the foliage in health after the Grapes are ripe, for red spider is seldom or never disassociated with early-forced Vines, and, unless the laterals are encouraged, so as to keep the roots active and afford an outlet

for the sap, the buds that are intended to furnish the succeeding season's crop of Grapes would probably be forced into growth in late summer, as we have seen them doing so in September. The beginning of December is quite early enough to start permanently planted-out Vines, and they will then ripen Grapes of the highest excellence in May. There is nothing gained by hard forcing except thin foliage to be scorched by powerful sun or made brown by red spider, and very moderate Grapes. Very early Grapes, however, generally finish well, except when the Vines are overcropped, and are free, as a rule, from shanking, even when the roots of the Vines are in an outside border 20° or more less in temperature than the mean of the atmosphere of the house, the micro-organism that produces this disease not being present at the dead season of the year.

Where there is no provision for growing pot Vines, which we strongly advise, and Grapes fit for table must be had in late March or early April, the Vines should be started not later than the middle of November, and we prefer to commence in earnest a fortnight earlier. Up to that time the house should be kept cool and dry, and the outside border, if any (and it is a grave mistake in early forcing), should be protected from autumn rains by covering it before the ground is chilled by continued wet and cold. We use a good covering of dry leaves with a little litter on the top to prevent them blowing about, 9 inches thickness being effectual against frost, and if tarpaulin is employed over all in case of heavy rains or snow nothing further is required. If the border is allowed to become moistened through by the autumn rains before being covered, no water will be needed there until the Grapes are perfected. Fermenting materials on outside borders are often more injurious than beneficial, because the heat is not regularly maintained, often being allowed to become cold and wet just at the time when the Vines need active roots to supply nourishment to the foliage and fruit. But they are very useful for placing inside the house to generate and maintain a genial condition of the atmosphere, and are economical, as the warmth and moisture given out lessen recourse to so much fire heat or sprinkling from the syringe. The fermenting materials should not be used until the house is closed, but they will need to be thrown into a heap a week or ten days previously, turned, and moistened if necessary. Three parts Beech, Oak, or Spanish Chestnut leaves to one of stable litter give a more suitable warmth, and a more congenial and ammonia-charged atmosphere than all manure. Mix well together when thrown into the heap, sprinkle water if dry, turn in four days to a week, throwing outside to inside, damp again if necessary, and when warmed through the material is fit for placing in the house.

Late Muscats.—The Grapes will now be thoroughly ripe, but they will improve in colour and maturity up to about December, and the foliage will be retained some time longer where the border is kept properly moist by watering as required in the early part of fine days. Muscat of Alexandria and Canon Hall become quite whitish, yellow, and sere at the edges of the leaves long in advance of the foliage falling, whilst the veins and footstalks are quite green and capable of assimilating some food which goes to plump and perfect the buds and is stored in the wood. Retain the leaves, therefore, as long as possible, and a moist condition of the soil will not injure the Grapes provided the atmosphere is not stagnant and does not become saturated with moisture for want of increased ventilation on fine mornings to dissipate it instead of allowing it to be condensed on the Grapes. A temperature of 50° should be maintained at night and 5° more by day, with sufficient ventilation so as to insure a circulation of air, and it should be admitted freely on all favourable occasions by day. If the Grapes are not well finished they should have a night temperature of about 60° to 65°, 70° to 75° by day, and 10° to 15° rise from sun heat, all with air, and the soil must be kept properly moist; but it is difficult to get finish into Grapes by a forcing temperature in autumn.

Late Grapes.—The thick-skinned varieties will be thoroughly ripe if they were started in good time, and have been assisted through the late spring and summer months with artificial heat. When the Vines, however, are started in April, and not accelerated in growth and for the perfecting of the Grapes, the latter will not be ripe, and they probably never will ripen, as we have found a forcing temperature after October comes in to have a very indifferent effect upon the fruit in ripening. If there is any deficiency of finish the chances are that it will never be improved; but in that case the temperature should be kept at 60° to 65° at night, 70° to 75° by day, 80° to 85° from sun heat, continuing this until the Grapes are ripe—at least, until the wood is brown and hard, which is essential to the production of fruit in the ensuing season. Only thoroughly ripe Grapes can be expected to keep satisfactorily, and in that case, the wood also thoroughly matured, all spray or laterals may be removed down to the main buds, ventilating freely on all favourable occasions, and fire heat will only be necessary to prevent the temperature falling below 50°. To prevent dust settling upon the berries, raking or sweeping must not be practised. If the border is covered with clean dry mats it will to some extent prevent evaporation, assist in keeping the atmosphere dry, and prevent the soil cracking. Ventilation, however, is the best antidote against the Grapes damping, and there must be a certain amount of atmospheric moisture, with a not very dry condition at the roots, or the Grapes will shrivel. Outside borders may be covered with glass lights to throw off heavy rains, or a good covering of bracken or straw is very serviceable, but many have to be content with a few inches thickness of leaves or litter.

Young Vines.—There is little gained by keeping Vines that have a tendency to keep on growing in an atmosphere favourable thereto, and lateral growth after this serves only to accelerate the evil—immaturity

of the wood. Check growth, therefore, by gradually removing the laterals, so as not to start the main buds, and facilitate the ripening of the wood by a high temperature and dry atmosphere by day, say 70° to 75°, with 10° to 15° rise from sun heat, with moderate ventilation, shutting off the heat and keeping the ventilators open at night, except when frost prevails.

PLANT HOUSES.

Chrysanthemums.—These should be housed without delay, or injury from frost may result. After the plants are placed under glass syringe them freely, or their foliage will be liable to suffer by the dry atmosphere of the structure. Slugs are frequently carried into the houses with these plants. It is a good plan to look over the pots carefully with a light several nights in succession to remove any that show themselves. Slugs may destroy some of the best blooms, while they prey injuriously upon the cuttings at a later date. If aphides are prevalent fumigate the house with tobacco smoke. They are much easier destroyed at the present time than when the plants are in full bloom. Once the blooms are infested with these pests they are soon spoiled, and rendered useless for any purpose. Late kinds that are grown for cutting purposes only may be kept outside; but they should be placed where slight protection can be given them in case of frost. If these plants are to keep their foliage healthy the roots must be kept at work near the surface, and then those grown for large blooms will develop flowers of the best quality. This can be accomplished by applying stimulants in a weak state, and artificial manure in small quantities to the surface soil occasionally. Flat blooms that are both void of colour and substance are frequently the result of overfeeding, which destroys the roots; unless the latter are thoroughly active until the last well-finished blooms cannot be expected. Earwigs are numerous this year, and they must be carefully watched for, as they soon devour the petals and destroy the blooms. Give abundance of air to plants placed under glass, so that the flower buds are not unduly hurried forward. It is also the best means of preventing damping in those expanding.

Calceolarias.—The earliest of these may be placed into 3 or 4 inch pots, according to their size. Grow these plants in a cold frame, but watch for slugs, which are particularly fond of them. Later plants may be pricked into pans and boxes according to the quantity grown. These may now have a light airy frame, and will do better than if kept in one with a northern aspect.

Cinerarias.—The earliest batch of these will be coming into flower and will be useful in the conservatory. Later batches that need more root room should be repotted at once. It is useless to repot those that are already showing their flower stems. Those for flowering in spring should be well cared for, because they are invaluable when the majority of bulbous plants are over. These plants will do for some time in cold frames. Give them abundance of air daily, and leave a little on the frames all night when mild. The watering of these plants should now be done in the morning. To those in their flowering pots that are well filled with roots weak stimulants may be given. Soot water in a clear state is very beneficial to them. Watch for aphides and destroy them directly they make their appearance.

Lilium Harrisii.—This is a useful decorative plant when in bloom, and should be grown in quantity. Medium sized bulbs should be placed in 6-inch pots that are well drained. The compost should consist of fibry loam three parts, the remaining part being composed of leaf mould and sand; to this may be added one-seventh of decayed manure. In potting the bulbs must be just covered. If the soil is moderately moist no water should be given. Stand the pots in a cold frame and fill the spaces between them with cocoa-nut fibre refuse, covering the surface with about 2 inches of the same material. Failing this fine ashes will answer the same purpose. When subjected to this treatment evaporation is prevented and the bulbs soon commence to root and grow. As soon as they show through the plunging material remove the plants to the greenhouse and apply water. If grown in quantity a low cool airy house will suit them well, or they may be placed on shelves moderately close to the glass. From one batch of plants a long succession of bloom may be obtained if proper treatment is given.

Callas.—If these are still in the open they should be lifted without delay, well watered, and stood behind a north wall until root action has commenced, when place in their winter quarters. Solanums, Bouvardias, Salvias, and other plants that are outside should be lifted and treated in the same way until they are established. If there is any appearance of frost while the plants are outside protect them by covering with mats.

Ivy-leaved Pelargoniums.—Plants that have been well ripened will, if placed under glass where a night temperature of 55° to 60° can be maintained, soon come into flower. If the plants have been standing outside they should have cool airy treatment for a week or two, and then gradually kept close. Those well ripened under glass and recently potted will in gentle warmth soon come into flower. Those for spring flowering in 5-inch pots may be pinched and placed on a shelf where the temperature will not fall below 45° during the next three months.

Zonal Pelargoniums.—All plants grown for autumn and winter flowering should be under cover. Heavy rains and dull sunless weather is very liable to start them into a soft growth, and if this takes place the plants will not flower satisfactorily. Those placed in a suitable house if gradually kept close and finally subjected to a temperature of 55° to 60° will be in full bloom during the early part of November, a time when they are specially useful. Those not needed so early may have the protection of cold frames for a time. Give them abundance of air when favourable, throw off the lights during fine days, but protect them from frost and heavy rains.

French and Fancy Pelargoniums.—For early flowering these plants are best in 5-inch pots. For this purpose cuttings are rooted early, placed into 3-inch pots, and the point pinched out, or, better still, taken out when the cuttings are inserted. If this is done the plants start into growth with three or four shoots, and are established in 3-inch pots. From this size they should be placed into 5-inch pots, using a compost of loam and sand, with one-seventh of decayed manure. The soil must be pressed firm into the pots to induce a slow sturdy growth. The plants should not be pinched again, but when potted stood on a shelf where the temperature during the winter will average about 40°. If the batch prepared for this purpose is too large pinch the remainder, give them the same treatment, and finally place them into 7-inch pots. Young stock are preferable to old plants. The earliest of these should be given similar treatment to that advised for the young stock; the second batch ought to be shook out and repotted in smaller pots. Keep these close for a few days until they have commenced to root, when place on a shelf in any cool house. Cuttings that have been dibbled in outside and are rooted may be potted and placed on a shelf in a cool house. A late batch of these plants are often as important as an early one.

Heliotropes.—Plants that have been grown outside as standards and bushes may now be placed into gentle warmth, when they will start into growth and soon be in full bloom. Those for spring flowering may be pinched and placed into 3-inch pots, and stood on a shelf where the temperature will range from 45° to 50°.

Fuchsias.—Cuttings that are just rooted may be potted singly into 3-inch pots. Stand these on a shelf close to the glass, where the temperature does not fall below 50°, until they are established, finally placing them where they can be kept at 45°. In this temperature they will grow slowly during the winter, and make excellent decorative plants early in the season.

THE BEE-KEEPER.

APIARIAN NOTES.

BEES EXPELLING DRONES.

"J. H. M." would like our opinion about bees killing their drones tardily. It is not easy to diagnose the actual state of any hive by the killing of its drones without seeing it at work, and the manner the bees kill them. It is generally supposed when bees kill their drones that the queen is all right, and laying fertilised eggs, but this cannot be depended upon. The youthful bees in a normal hive as a rule begin to expel the drones shortly after they creep out the cell, and after they are strong enough for that work. This refers to the first-hatched bees of a young queen. Bees have also the habit of treating drones roughly unto death when they appear anxious to have their virgin queen mated, and this sometimes continues throughout the season until all the drones are killed, while the queen still remains in her virgin state. We had numerous instances this year. Our correspondent should examine the combs, and make sure the queen is a fertilised one; a little feeding will cause her to lay. Drone brood is known by the ruggedness of the cells, and the prominent convex coverings of them; while the worker brood is flat and even, or only a very little raised. Possibly the existing queen may be a drone breeder.

PUNIC BEES.

Continuing my notes from page 294, I come to Punics. They do not get into a frenzied state, like most other varieties do when in transit, so are valuable where they have to be taken long distances to the Heather. If spared till another year I will do my utmost to have one or more pure stocks tested for honey gathering. Crosses are superior, and judging from the way pure ones have worked in 1891 and 1892 at the Heather I am favourably impressed with them, and, as one of my pure queens is still living, hope they will survive the coming winter. One second cross by Carniolan drones are beauties; they cannot be detected from pure Carniolans in colour, but for smartness I have witnessed none to equal them, the untoward season also frustrating all attempts at proving the progeny of this year's mated queens.

THE TEMPER OF PUNICS.

The temper of Punic bees is not so mild as Carniolans, but is milder than all the other varieties I have had to do with. They are not nearly so fierce as the original British bee. The last-named variety attacks people at a great distance from their hives, which the Punics do not. I have never been attacked by a Punic bee further than 10 yards or so, and they do not follow the victim like Italian nor native black bees. But the temper of all bees (Carniolans excepted) depend very much upon the way they are manipulated or handled, and to the odour from the persons handling them. Veils should on all occasions be worn by beginners until they know by experience when they can be dispensed with. I manipulated

my pure Punics many times during summer without any protection further than a carbolised feather.

AT THE HEATHER.

Bees are, as a rule, more spiteful at the Heather than when at home, and for that reason I always approach them at first veiled. Without this caution one sting might incur thousands, and make them intolerable to all who approached nearer than 100 yards, while even at that distance no one is safe from the furious crosses or the pure Italian and Syrian bees.

INOCULATION BY STINGS.

This to prevent after swelling is a popular fallacy, which I am prepared to prove to anyone who doubts it, and by many living witnesses. When at the Heather I came into a discussion with a professor in the clinical department, who at the time was unknown to me. I quoted its origin and made explanations, which he scouted, and fell back upon the vaccination with lymph being analogous. I explained to him the action of the acid of the sting of the bee upon the blood, and also its harmlessness upon the stomach, and asked him whether vaccine lymph would have similar results. The discussion was listened to by many people, amongst whom were several bee-keepers, who coincided with my experience.

FEEDING

being a common thing this year with many bee-keepers, beginners will, therefore, be none the worse by a little information upon the subject. From the 22nd September till the end of the month we had unabated wind and rain, so that my bees stand as they were, temporarily covered when brought from the Heather, but I permitted feeding through the day without risk of creating robbing. I caution beginners against attempting this until they become experienced. Better to feed at sunset or a little before, and never after dusk at first. It sometimes results in losing many bees, as they have a tendency to fly out.

PURE CANE SUGAR.

No other than this should be employed, the proportion of water to sugar being about equal in weight. The mixture often given of less than half of that quantity of water is liable to candy in the hive, and the bees may die amidst plenty. Bees prefer all syrup thin. The modern idea of thick feed is that it should be the consistency of natural food. It seems to be forgotten that honey is watery at first, and that the bees by certain processes render it thick.

BOTTOM FEEDING.

This is more natural for the bees and handier for the apiarist. The bees take food quicker up than down, while when feeding from below the crown of the hive is supposed to be covered, as it will be during winter, the bees store it in its proper place, and contiguous to the winter cluster, so that the food will never be out of the reach of the bees during a zero temperature, as it is sometimes with certain crown-fed hives. I have fed several hives with thick syrup to show beginners the soundness of this teaching. Thick syrup is altogether unsuitable for winter feeding. — A LANARKSHIRE BEE-KEEPER.



* * All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Paradise Stocks (J. B.).—Paradise Stocks are simply more or less diminutive varieties of Apples. The French Paradise is the smallest in wood, leaves, and fruit, and the least useful. It is said to have been introduced from the East as *Pyrus malus pumila*. Then there are the English Paradise, which is stronger and better, yet precocious, the French and Dutch Doucin stocks, and others, all probably chosen from

seedlings by stock raisers in the same way that Mr. Rivers selected the very good Nonesuch and Broad-leaved Paradise stock from seedlings of the English Nonesuch Apple, because of their sturdy fruitful nature and surface-rooting proclivities.

Moisture for Orchids (T. C.).—Every case has its peculiarities, and, as the doctors say, strong measures have to be resorted to occasionally. The treatment advised proved beneficial in the case referred to. We have no doubt you find that the requisite amount of moisture for the Orchids under your charge is provided when there is a difference of between 4° and 5° in the day as registered by the dry and wet-bulb thermometers and 1° or 2° during the night; but all the same, the writer of the note you criticise is not a less successful cultivator of Orchids than yourself, and the large number of plants in his charge are in the best possible condition.

Caterpillars on Pear Leaves (W. J. M., Clonmel).—These will produce a small moth of the Tortrix family, named *Sponotia roborana*, which feeds upon the Rose, also upon the Apple and Pear. The ravages of the early or spring brood are more frequently noticed, but there appears to be generally a second brood, which sometimes feed in the autumn as in the present instance. Probably the application you mention would be of service to some extent, but any wash used to kill must be applied with considerable force, since the caterpillars are well hidden in the leaves. Some have found very efficacious for caterpillars of this and kindred species a mixture composed of Gishurst compound and tobacco water, or a wash of soft soap alone applied freely.

Plants for Bed and Pond (A. B.).—It would be best to occupy the bed with the hardier kinds of bulbs in winter, such as Winter Aconite, Snowdrop, Scillas, Hyacinths, Narcissi, and Tulips, and in summer with the ordinary class of bedding plants, such as Zonal Pelargoniums edged with Lobelia, Golden Feather Pyrethrum and similar plants. The bulbs should be planted this autumn. For the pond you may have *Aponogeton distachyon*, *Nymphaea alba*, *N. odorata*, *Nuphar pumilum*, and *Pontederia cordata*; plant those in not less than 12 inches, not more than 2 feet of depth of water. For the margin or in shallow water, *Iris pseud-acorus*, *Caltha palustris*, *C. palustris minor plena*, *C. palustris monstrosa plena*, *Menyanthes trifoliata*, *Ranunculus Lingua*, *Primula rosea*, and *Butomus unbellatus*. They are best planted in spring, about the middle to the end of April.

Tomato Sauce (R. G.).—As the recipes from your friends are not such as you require, as containing "cayenne and other strong things," we cite two others from Mr. Iggulden's manual, which all Tomato growers and users should possess:—1 (French), Cut ten or a dozen Tomatoes into quarters, and put them into a saucepan, with four Onions sliced, a little Parsley, Thyme, one Clove, and a quarter of a pound of butter. Set the saucepan on the fire, stirring occasionally for three-quarters of an hour. Strain the sauce through a horsehair sieve, and it is then ready for use. 2 (Italian), Take twelve or fifteen Tomatoes, a bit of butter, a little salt, half a dozen allspice, a little Indian saffron, and a glass of stock. Slice five or six Onions, and put the whole into a saucepan. Set it on the fire and stir frequently, as the mixture is apt to stick. When the sauce is observed to be tolerably thick, strain it like a *purée*.

Hyacinths and Tulips in Pots (J. B.).—About six weeks are required for the pots to remain plunged in ashes after the bulbs are potted. In the absence of ashes sand may be employed, and if of a sharp gritty nature is quite as good. We invert a small pot over the bulb of the Hyacinth, and cover with about 6 inches of cocoa-nut fibre refuse. As both the Hyacinths and Tulips will have grown somewhat when they are removed from the plunging material, care must be taken not to expose them suddenly to strong light or powerful sun, but they must be gradually inured to it, so as to prevent the foliage being damaged. Placed in a light airy position in a greenhouse, they will flower in March and April. The Tulips we presume are of the usual early varieties. A suitable compost for potting the bulbs is turfy loam of medium texture broken up moderately fine, to which add a fifth of well decayed manure or a fourth of leaf soil and a sixth of sharp sand. A quart of soot may be added to every bushel of compost, and the whole thoroughly incorporated.

Spearmint and Peppermint (W. J. M.).—Spearmint, or Green-mint, is *Mentha viridis* a native of Britain, in marshy places. The plant has a strong, aromatic odour, with a warm and slightly bitter taste, which is less pungent, but more agreeable than that of peppermint. The properties of the plant depend on a volatile oil, obtained by distillation. Oil of Spearmint is pale yellow or greenish when fresh, but becomes darker with age, and ultimately of a mahogany colour; it is used for the same purposes as oil of Peppermint. Its specific gravity is 0.975, and its boiling point 320°. Peppermint (*M. piperita*) is also a native of Britain. The plant has a warm, pungent, and camphorous taste, leaving a remarkably cold sensation in the mouth. Its odour is very strong, balsamic, and penetrating, particularly when touched, and which it does not lose, even in drying. Peppermint is stimulant and aromatic, and is good against nausea and flatulence. Its properties are owing to the presence of a large quantity of volatile oil which it contains, and is obtained by distillation. Oil of Peppermint is greenish yellow, and has a strong aromatic odour, with a warm, camphorous, and very pungent taste. Its specific gravity is 0.920, and its boiling point 365°. It is often adulterated with alcohol, and even with oil of turpentine. Combined with alcohol it forms essence of Peppermint, and it is used medicinally as a carminative and stimulant, as well as in confectionery for flavouring bonbons. Peppermint water, obtained by distillation, is very much employed in tonic, cordial, and anti-spasmodic drinks.

Eelworms Infesting Tomato Plants (X. Y. Z.).—We do not think we should advise you to pull up the worst plants and plant others in their places without making an entire change of soil, but rather to pull up and burn the plants most attacked, and seek to impart vigour into those least affected by dressings of bonemeal, sulphate of potash, and sulphate of ammonia. What effect this has had upon them you fail to note, though you say nearly all the remainder of the plants in the house have the same complaint. You ask for a dressing that will destroy the nematodes after you have removed 6 inches of the surface soil. We regret to say we know of no dressing that would destroy the insects that pass from the plants in autumn into the surrounding soil, ready to make their way to the new crop of food plants the following spring. Should there be any upon which they feed within their reach, that would not render the soil unfit for the growth of the plants. Some species of *Tylenchus* have the property of reviving in moisture after being apparently dried up for many months, or for years. No cold that we experience will destroy them; they endure extremes of heat up to 125° without injury, and they live in water alone for a lengthened period. They are not harmed by vegetable poisons, but they succumb to solutions of acids and most of the metallic compounds, especially to copper. This, however, cannot be applied to the soil without endangering the growth of the plants, and proving injurious, if not fatal, to human life. Sulphate of iron may be used at the rate of 1 ounce per square yard, and be mixed with the soil a foot deep after you have removed the 6 inches. This is some check on the Nematodes, but the only safe and sure remedy is to remove every particle of soil as deep and wide as the roots have penetrated, and not use it again for plants which are liable to attacks of eelworms, or, better still, subject it to a temperature not less than boiling point (212°) over a wood fire. That is a never-failing remedy, and often improves the soil for the growth of plants liable to be infested by eelworms at times, because it destroys vegetable matter, and so gives a larger percentage of mineral substances, particularly of potash and soda. Stable or farmyard manure is also liable to introduce the eelworms from diseased to healthy plants. We advise the use of fresh soil, and save seed only, if at all, from plants in which the disease has not appeared.

Names of Fruits.—*Notice.*—Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing.* The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. (*Ugbrooke*).—1, Minchull Crab; 2, Autumn Pearmain; 3, a malformed specimen of Greenup's Pippin; 4, Alfriston; 5, Bramley's Seedling. (*N.*).—1, Pear quite rotten at the core, worthless; 2, Blenheim Pippin; 3, Bedfordshire Foundling; 4, Dumelow's Seedling. (*J. J. D.*).—1, Maréchal de Cour; 3, Flemish Beauty; 4, King of the Pippins; 5, Summer Whorle; 6, Winter Codlin. (*H. J. W.*).—1, Probably local, and of little merit; 2, Potts' Seedling, a serviceable variety. (*W. M. B.*).—1, Beurré d'Anjou; 2, Beurré Diel; 3, Nec Plus Meuris. Continue your course of obtaining the paper, and send the extra copy to a friend. (*Alex. Haggart*).—The large Apples very closely resemble Flower of Kent, too closely, we think, for the variety to be regarded as distinct. Flower of Kent is a very old and good kitchen Apple, and was mentioned by Parkinson in the time of Shakespeare. (*A. Burness*).—1, Dumelow's Seedling; 3, Kerry Pippin; 4, Scarlet Nonpareil; 5, Rosemary Russet; 6, Easter Beurré, cracked and spotted through the soil being poor and probably sandy. **Special Note.**—We have named all the fruit that has been received up to the time of going to press in conformity with the above conditions. We have both boxes and baskets of fruit which cannot be named because the names of the senders were not enclosed with the specimens. Letters and cards posted separately obviously do not enable us to determine to which they refer. It is absolutely essential that the names of senders of fruit be placed *in the parcels*. It is as disappointing to us as to our correspondents that so many fruits cannot be named for the reason stated.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*E. J. T.*).—*Sedum spectabile*, also known as *S. Fabaria*. (*Taylor*).—1, *Onychium japonicum*; 2, *Adiantum Capillus-Veneris*; 3, either *A. scutum* or *A. tenerum*, cannot tell from small specimen; 4, *Pteris hastata*; 5, *P. serrulata cristata*; 6, *Adiantum gracillimum*. (*W. E. J.*).—*Ajuga*, send when in flower. (*F. A. B.*).—*A. Brunsvigia*, but send fresh flowers or a description of the plant. Compare with *B. Josephinae*. (*C. W., Bucks*).—1, *Cotoneaster microphylla*; 2, *A. Ceanothus*, possibly *C. rigidus*; 3, *Crataegus pyracantha* or *C. Lelandi*, specimen insufficient; 4, *Escallonia macrantha*; 5, Perhaps *Biota aurea*; 6, Possibly *Thuja dolabrata variegata*. No one can name shrubs with certainty from such diminutive scraps.

TRADE CATALOGUES RECEIVED.

Thomas Knight, Moss Side Nurseries, Ashton-under-Lyne.—*Dutch and French Flower Roots*.

J. R. Pearson & Sons, Chilwell Nurseries, Notts.—*Hardy Fruits for the Midlands, Roses, Evergreens, &c.*

G. Phippen, Reading.—*Nursery Catalogue*.

W. Rumsey, Joynings Nursery, Waltham Cross, N.—*Roses, Trees, Shrubs, and Fruit Trees*.

T. S. Ware, Hale Farm Nurseries, Tottenham, London.—*Catalogues of Hardy Border Flowers, Florists' Flowers, and Other Plants*.

COVENT GARDEN MARKET.—OCTOBER 5TH.

MARKET very flat indeed, with prices much depressed.

FRUIT.

			s.	d.	s.	d.				s.	d.	s.	d.		
Apples, half sieve	..	..	1	0	to	3	6	Oranges, per 100	..	..	4	0	to	9	0
Grapes, per lb.	..	..	0	6		1	6	Peaches, per dozen	..	..	2	0		6	0
Filberts, Kent, per 100 lbs.	75	0	80	0				St. Michael Pines, each	..	..	3	0		6	0
Lemons, case	..	..	15	0	35	0									

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.		
Beans, Kidney, per lb.	0	2	to	0	0	Mustard and Cress, punnet	0	2	to	0	0
Beet, Red, dozen	1	0		0	0	Onions, bunch	0	3		0	5
Carrots, bunch	0	4		0	0	Parsley, dozen bunches	2	0		3	0
Cauliflowers, dozen	2	0		3	0	Parsnips, dozen	1	0		0	0
Celery, bundle	1	0		1	3	Potatoes, per cwt.	2	0		5	0
Coleworts, dozen bunches	2	0		4	0	Salsafy, bundle	1	0		1	6
Cucumbers, dozen	1	6		3	6	Scorzouera, bundle	1	6		0	0
Eudive, dozen	1	3		1	6	Seakale, per basket	0	0		0	0
Herbs, bunch	0	3		0	0	Shallots, per lb.	0	3		0	0
Leeks, bunch	0	2		0	0	Spinach, bushel	3	0		3	6
Lettuce, dozen	0	9		1	0	Tomatoes, per lb.	0	2		0	4
Mushrooms, punnet	0	9		1	0	Turnips, bunch	0	3		0	4

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.		
Arum Lilies, 12 blooms ..	3	0	to	6	0	Margnerites, 12 bunches ..	2	0	to	4	0
Asters, English, doz. bunchs.	3	0		6	0	Mignonette, 12 buaches ..	1	0		3	0
Bouvardias, bunch	0	6		0	9	Orchids, per dozen blooms	3	0		12	0
Carnations, 12 blooms ..	0	6		2	0	Pansies, dozen bunches ..	1	0		2	0
Chrysanthemums, dozen						Pelargouiums, 12 buaches	6	0		9	0
blooms	1	6		2	0	Primula (donble) 12 sprays	0	6		0	9
Chrysanthemums, dozen						Pyrethrum doz. bunches ..	3	0		6	0
bunches	6	0		12	0	Roses (indoor), dozeu ..	0	9		2	0
Encharis, dozen	3	0		6	0	„ (outdoor), doz. buach.	6	0		8	0
Fuchsias, per bunch	0	6		1	0	„ Red, per doz. blooms..	1	0		2	0
Gardenias, per dozen ..	2	0		4	0	„ Tea, white, dozen ..	1	0		2	0
Geraniums, scarlet, 12 bchs.	6	0		8	0	„ Yellow, dozen	2	0		4	0
Gladioli (various) 12 sprays	1	0		2	0	Sunflower, doz. bunches ..	2	0		6	0
Lilium longiflorum 12						Sweet Sultan, doz. buaches	2	0		3	0
blooms	3	0		5	0	Sweet Peas, dozen bunches	1	0		3	0
Lilium (var.) doz. blooms	1	0		3	0	Tuberose, 12 blooms.. ..	0	3		0	6
Maideuhair Fern, doz. bchs.	4	0		6	0						

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.		
Arbor Vitæ (golden) dozen	6	0	to	12	0	Fuchsia, per dozen	3	0	to	6	0
Begonia, per dozen	6	0		12	0	Heliotrope, per dozen ..	6	0		9	0
Chrysanthemums, per doz.	6	0		9	0	Hydrangea, per dozen ..	9	0		15	0
„ large plants, each	1	0		3	0	Lilium lancifolium „ ..	12	0		15	0
Cupressus, large plants, each	2	0		5	0	Lycopodiums, per dozen ..	3	0		4	0
Dracæna terminalis, dozen	18	0		42	0	Marguerite Daisy, dozen ..	6	0		12	0
„ viridis, dozen ..	9	0		24	0	Mignonette, per dozen ..	6	0		12	0
Euonymus, var., dozen ..	6	0		18	0	Myrtles, dozen	6	0		9	0
Evergreens, in var., dozen	6	0		24	0	Palms, in var., each	1	0		15	0
Ferus, in variety, dozen ..	4	0		18	0	„ (specimens)	21	0		63	0
„ (small) per hundred	6	0		8	0	Pelargoniums, scarlet, doz.	6	0		9	0
Ficus elastica, each	1	6		10	6	„ per dozen	6	0		12	0
Foliage plants, var., each..	2	0		10	0	Solanums, per dozen	9	0		12	0



DAIRY FARMING.

AFTER building up a national reputation for the production of butter of uniform quality, with every advantage of State aid and scientific supervision, the dairy farmers of both Sweden and Denmark found that the margin of profit was so small as to yield a poor return for efforts so thorough and purpose so earnest as theirs. Gradually, step by step, they have become as skilful in selling as in making their butter. Finding so large a share of their legitimate profits absorbed by middlemen, they have by means of co-operation effected change after change, till at length the establishment of shops in this country has brought them face to face with their best customers. In doing this they have shown what capacity, determination,

perseverance—aye, and business acumen—will do. So impressed is the Board of Agriculture of this country by all this, that it has recently published full and lengthy particulars of it, obviously for the benefit of British dairy farmers, making the matter sufficiently clear for the comprehension of ordinary minds.

Surely this is a step in the right direction, to be regarded as holding out a helping hand to farmers in difficulties. It is a word to the wise, which comes to us at a time when the difficulties of dairy farmers have exceptional prominence accorded them, from the action of Lancashire men in their cry for help to landowners and the Legislature. "Help yourselves!" is the answer to their appeal, "and let the spirit of co-operation shown by the Preston manifesto lead you to combine in similar efforts to overcome difficulties which the farmers of Sweden and Denmark have shown and are showing you are not insuperable." On behalf of our own farmers we ask, Is their appeal to the Legislature altogether uncalled for? May we not hope that State aid will at least be accorded them upon somewhat similar lines to those in force in Denmark, where Government rules for the management of dairy and cowhouse are enforced by competent inspectors? Any annoyance resulting from such interference must be counterbalanced by the advantage of the advice and guidance of skilful scientific practitioners. Many times we have known worthy farmers at a loss when cows have fallen off prematurely in the milk yield, or in the treatment of the ailments of one kind or other which occur in all herds. What a boon to them would be the right, as it would be their duty by law to have Government assistance in their difficulties!

Though the provision of a proper and seasonable dietary would be enforced, the establishment of suitable cowhouses and other means of shelter, according to the requirements of each homestead, would also have similar authoritative attention. With this would come, too, means of prevention of the enfeebled condition which so frequently leads to disease. Such means are wanting on many farms now, and where they are available are but too often not turned to account from ignorance of their true value and use. Another much wanted improvement would be found in the better class of cows, not mere show animals, but in which a greater milk yield would be developed. That this point, so advantageous to the farmer, would be constantly impressed upon him is certain, and it is reasonable to suppose it would then have the attention it deserves. Self interest should prove a sufficient incentive in this, yet it evidently is not so, and it remains for a spirit of emulation, which would probably spring from closer contact with others, to incite more attention to careful breeding.

Given such a reform as we have thus briefly indicated, it only brings us to the better production of milk. There is still before us the vital question, What is to be done with it? We repeat, that if it could be arranged for farmers near large towns to sell milk, and those outside a given radius to turn their milk to account for making cheese and butter, it would be to the mutual advantage of farmers generally. Now we hear frequent complaints of the low price of milk. We shall continue to do so while it is sent to London from farms upwards of a hundred miles off. In the *Melton Mowbray Times* of September 23rd there was an advertisement by a large London dairy company for "first-class dairies of milk, cheques weekly, and all churns found." While such advertisements have attention, can we wonder at the low price of milk? The remedy is to be found in the systematic establishment of co-operative dairy factories by milk producers, who would thus obtain a ready sale for their milk at a fair price, and also participate in the profits of the concern. Who will be the first to move? In Munster, after much discussion and hesitation, a public spirited farmer led the way. He had sufficient influence to induce others to combine

with him to start the first factory, and the success which they had with their bold venture was a veritable beacon light to other farmers, who soon followed the excellent example set them, and who have found their cows become 30 per cent. more valuable under a scheme which is proving such a blessing and relief to the south of Ireland.

WORK ON THE HOME FARM.

First let us correct an error in our work note of September 22nd, in which by an inadvertence it was stated that land in course of preparation for fruit farming should be ready for planting early in September. We of course intended to say November, and would urge all who intend planting fruit trees or bushes this season to be ready with land and trees by the first week of that month. You may plant from then till spring in favourable weather, but the work can never be done to such advantage as early in November. The roots then become sufficiently established in the soil to render robust vigorous growth a certainty next year. If planting is put off indefinitely till late in the season the trees will live if properly cared for, but they will put forth no useful growth, so that a year is practically wasted. In the formation of new fruit plantations attend to the due provision of shelter by planting mixed belts of Lombardy Poplar and Austrian Pine, which then gain size with the fruit trees, affording really useful shelter by the time the latter are well in bearing.

Keep calves shut in except on warm dry days; those left out on pasture in all weather have now much dry husky cough among them, and there will be losses from what is practically a preventible disease. Clear out all surplus or weakly live stock at any price; it is much better to make a considerable sacrifice now than run the risk of being short of food next Ladyday. Consider ways and means carefully, allowing a considerable margin in the winter store of food for a hard winter and late spring. It is a good rule to make a point of having a stack of hay in reserve at turn-out time in spring. The thing is quite easy of management if only the head of stock is kept within due bounds. Clear off fat beasts from pasture to the butcher as quickly as possible, avoiding any stall-fed beasts as a rule, for they cannot answer at the present low prices. Besides cows and heifers the only store cattle profitable to winter now are the calves of last spring, and steers calved in the spring of 1891, which if brought into the yards now in good condition, kept so till next spring, and grazed well till the autumn, should answer well and prove fairly profitable. But there must be no cake bills; the farm must be self-supporting.

OUR LETTER BOX.

Parsnips for Dairy Cows (W. R. R.).—Parsnips in moderate quantities may be used advantageously for dairy cows. They are not generally favoured by farmers as a root crop because they require a deep rich soil to give thick clean roots. Sown in shallow soil they put forth so many forked roots that the main root is comparatively worthless; the crop is both difficult to lift and to clean. In deep rich loam we have found Parsnips answer admirably, growing freely and well, and affording a very valuable supply of food for cows in winter. Give heed to our hint about moderation in the use of this root, so as not to run any risk of imparting unpleasant flavour to the butter. Sow early in March, using about 3 lbs. of new seed per acre. Lift the roots in October; they bear frost well, but it is best to have them off the land before it becomes saturated with the heavy rains of autumn.

METEOROLOGICAL OBSERVATIONS.

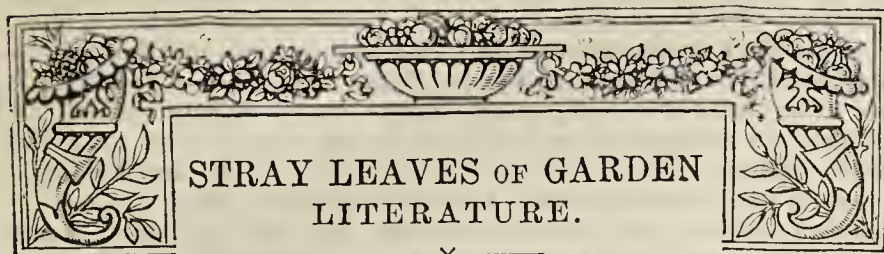
CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.	9 A.M.					IN THE DAY.				Rain.
1892. September and October.	Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.
Sunday .. 25	29.976	58.5	54.3	S.W.	56.7	66.0	44.7	102.4	42.0	—
Monday .. 26	30.053	55.4	53.8	S.W.	56.2	66.8	51.9	99.4	45.5	—
Tuesday .. 27	29.755	61.3	57.6	S.W.	56.9	67.5	52.6	89.1	47.1	0.198
Wednesday 28	29.794	50.1	48.3	W.	56.9	62.2	47.2	107.1	47.0	—
Thursday .. 29	29.839	52.7	48.0	W.	55.2	60.6	41.7	98.9	37.5	0.939
Friday .. 30	29.484	51.3	49.1	S.	54.2	59.2	47.8	88.9	47.0	0.106
Saturday .. 1	29.393	48.3	47.9	S.	53.9	55.7	42.5	83.0	37.1	0.351
	29.756	53.9	51.3		55.7	62.6	46.9	95.5	43.3	1.594

REMARKS.

- 25th.—Generally sunny in morning, fair afternoon, clear evening.
 26th.—Cloudy early, generally sunny after 10.30 A.M.
 27th.—Fair, with one or two gleams of sun; rain at night.
 28th.—Fine and generally sunny.
 29th.—Brilliant till 11.30 A.M., slight shower at noon, cloudy afternoon, with high wind and occasional spots of rain; steady heavy rain from 6 P.M. to 6.30 A.M. on 30th.
 30th.—Steady heavy rain till 6.30 A.M., a little sun about 11.30 A.M., heavy shower of rain and hail at 0.15 P.M., sunny afternoon, rain at night; a loud peal of thunder about 11.30 P.M.
 1st.—Heavy rain from 8.30 A.M. to 0.30 P.M., sunshine from 1 P.M., fair evening.
 A week of average temperature and considerable rainfall, but the last week of October is frequently wet.—G. J. SYMONS.



"TIME'S tyrannic sway" deals hardly with workers in the great field of horticulture, and with the material that their hands had fashioned, for the gardener is called away from his sphere of love and labour, while the flower gives place to an improved rival; but, safely enshrined in the records of horticultural progress, literary contributions live on to afford instruction and delight to succeeding generations. Few—save those who have turned over with a reverent and sympathetic hand the pages of the past, making imaginary headway against the fleeting tide of time, and living for a few hours with the gardeners and writers of fifty years ago—can realise how much we owe to our fathers' teaching. What if, in some cases, the style appears quaint and stilted? The germ of good was there, and, far from smiling at the stately cadences, we should see nothing but what is admirable in the literary work of the gardeners whose labours to clothe their thoughts in clear and intelligible language was not aided by the early education which is now enjoyed. As for the leaders of the circle of writers who flourished fifty years ago, their work speaks of sound knowledge, ripe judgment, and a literary skill not surpassed at the present time. When G. W. Johnson, Donald Beaton, Robert Fish, and R. Errington were writing in the *Cottage Gardener* horticultural literature was in its brightest phase, and it is not too much to say that the marked ability which characterises the writings of the present school of gardeners is the fruit of the example set by those brilliant men. They were by no means alone. Good work was done by many others, and a general high level was reached, the maintenance of which has given horticultural literature the highest place amongst that of special industries.

Apart, too, from the regular contributors to the gardening periodicals there have been contributions of great value from others to whom writing has been a pastime pursued in the leisure moments of busy business lives—stray leaves scattered in this quarter and that, but all helping to enrich the general store of knowledge. Of such are the essays, articles, and lectures written and delivered over a period of fifty years by Mr. William Paul, and the most important of which he has, by a happy inspiration, gathered together and published in a handsome and beautifully printed volume,* thus bringing into compact compass the scattered fragments of one of the most cultured horticulturists of our day. Wm. Paul wrote when Beaton did, and his firm bright intellect still delights us. The 562 pages of the volume before us are a record of practical knowledge, taste, and literary skill of no common kind, and the highest praise that can be bestowed on the book is to say that many of the chapters read as freshly as they did thirty, forty, or fifty years ago. The volume, which is dedicated to Dr. Hogg "as a mark of respect and esteem arising from a lifelong friendship" is divided into three parts, the first being devoted to Roses, the second to trees and plants, and the third to fruit culture and miscellanea. Mr. William Paul's eminence as a rosarian gives a special interest to the opening part, but as a horticulturist of considerable all-round knowledge, a calm thinker, and a man of taste and culture there is no chapter in the book that has not weight, value, and significance. It would appear that forty-nine years have elapsed since Mr. Paul's first communication on Roses

was published, this consisting of an article contributed to the "Gardeners' Chronicle," then edited by Dr. Lindley, on Roses in pots, and it was followed by others, these proving the then young writer to possess far more than a smattering of the practical knowledge which he displayed in dealing with the same subject later in life, and which, it may be noted, he has made peculiarly his own. One of the most interesting points of the chapter is to observe how widely lists of varieties varied from their present character. The change gives an idea of the great progress which has been made in the time that has elapsed since the article was written. For instance, the list of Hybrid Perpetuals recommended by Mr. Paul comprised nineteen, not one of which is in general cultivation now. Their names are as follows:—

"Auberon, Clementine Duval, Comte de Paris, Coquette de Montmorency, Dr. Marx, Duc d'Aumale, Duchess of Sutherland, Edward Jesse, Fulgorie, General Merlin, Lady Alice Peel, Louis Bonaparte, Madame Laffay, Mrs. Elliot, Prince of Wales, Prudence Roeser, Princesse Hélène, Queen Victoria, Rivers."

Almost as much might be said of the Teas:—

"Adam, Archiduchesse Thèrese, Barbot, Belle Archinto, Bougère, Bride of Abydos, Caroline, Comte de Paris, Devoniensis, Don Carlos, Elise Sauvage, Eugène Desgâches, Fragoletta, Goubault, Hamon, Julie Mansais, Madame Roussel, Josephine Malton, Moiret, Niphetos, Nina, Pactolus, Prince d'Esterhazy, Safrano, Taglioni."

Out of these, four—namely, Adam, Devoniensis, Niphetos, and Safrano, are still widely grown, and the last two are considered nearly indispensable. There could be no stronger tribute to their intrinsic excellence than the fact that the labours of fifty years in the improvement of this beautiful class have left their positions still impregnable. The train of thought suggested by this consideration of new and old varieties is carried further by the chapter on a trip to Paris in search of autumnal Roses in 1844.

"The History and Cultivation of the Rose" (page 21-42) forms one of the most complete, interesting, and valuable chapters in the book. It was delivered as a lecture to the Stamford Hill, Clapton, and Stoke Newington Gardeners' Association in 1845. "Who," says Mr. Paul, "were the first people to bring this flower from its natural habitat to be a dweller in cultivated grounds must ever be a matter of conjecture." He thinks, however, that it attracted notice at a very early period. That its great beauty has always given it a prominent position, even from the earliest times, is proved by the many references to it by the early writers, such as Theocritus, Homer, Sappho, Anacreon, Pliny, and Suetonius. Moreover, it has always stood as the symbol of floral beauty, appealing to poets and prose writers of all nations. Among those who have sung of it in the English tongue the author mentions Chaucer, Spenser, Shakespeare, Beaumont, Milton, Byron, Moore, Cowper, and Mrs. Hemans—a truly noble throng.

The first foreign Rose introduced into this country was, he tells us, the Damask, *Rosa damascena*, which came in 1573. The year 1596 is given as the period of introduction of the Provence (*R. centifolia*), the Moss (*R. centifolia muscosa*), the French (*R. gallica*), the Musk (*R. moschata*), and the Austrian (*R. lutea*), while *R. alba* followed in the succeeding year. "Here," said Mr. Paul forty-seven years ago, with an excursion into the realms of prophecy that time has abundantly justified, "were the progenitors of several of the most popular Roses of the present day brought to our shores at about the same period. Beautiful as they no doubt were then considered, highly as they would be prized by the scientific in those matters, who could have dived so far into the ocean of futurity as to foresee that from these species would spring forth the admirable varieties we at present possess? But we know it has been so, and in contemplating still further improvements by the process of hybridisation, what extensive prospects open upon our view? The field for experiment is boundless, and

*Contributions to Horticultural Literature, 1818-1892, by William Paul. Published by W. Paul & Son, Waltham Cross.

I believe yet brighter gems lie hidden undeveloped in the forms of these species and their varieties."

The double yellow Rose (*R. sulphurea*) was introduced about 1629, also the Evergreen Rose (*R. sempervirens*), while the Boursault Rose came in 1683. More than 100 years elapsed before the introduction of the Chinese Rose (*R. indica*) which served, as the following extract shows, as a portion of the foundation of the great H.P. class.

"From the Chinese crossed with the Gallica or French Roses have sprung the Hybrid Chinese, one of the finest groups of the whole. From these, again crossed with the Bourbons and Damask Perpetuals, have arisen another admirable group, the Hybrid Perpetual. These are, in reality, Hybrid Chinese continuing to flower during autumn, and are very hardy Roses."

Pursuing the historical portion of the subject, which cannot fail to interest many, we find that the Macartney Rose (*R. bracteata*) was introduced in 1795, *Rosa multiflora* in 1804, *Rosa Banksiae* in 1807, and the Tea-scented, which, like the Banksian and others, came from China, in 1810. *R. Lawrenciana* was also introduced in 1810, and the Noisette was sent to Paris from America, "where it was supposed to have been raised from a cross between *R. indica* and *R. moschata*" in 1817. Doubtless it reached England very little later. The same might be hazarded of the Bourbon Rose, sent to France from the Mauritius in 1822. *R. microphylla* was introduced in 1828, and *R. rubifolia* in 1830. We need not quote the cultural remarks of these on pruning, but in reading them with the recollection that they were written nearly half a century ago we recognise that they outlived the recognised practice of to-day.

"A Plea for Summer Roses," published in 1846; "Morning Rambles in the Rose Gardens of Hertfordshire," published in 1849; and "Tea-scented Roses as Conservatory Climbers," also published in 1849, contain much of interest and instruction, but there is still more in the series commenced in 1863. This consisted of a general opening article, two chapters on summer Roses, five on autumnal varieties, one on Tea-scented, and a final one on brief rules of culture. Rose shows, garden Roses, bedding Roses, thoughts on Roses, fast life among the Roses, Roses and Rose showing, Roses in pots, Roses at the Royal Botanic Society, and Roses and Rose shows, all form pleasant and profitable chapters. One of the most valuable in the book, however, is that on "the Grouping of the Garden Varieties of Roses," read at a conference of the Royal Horticultural Society in 1889, thus bringing the book up to a comparatively recent date; while the last, on town Roses, which appeared in our columns in July of the present year, forms a practical and useful conclusion of Part I.

In no way inferior in interest or value are the numerous communications gathered together in Part II. on trees and plants, which are excellent in themselves and a striking proof of the versatility of the author. He deals with such diversified subjects as the varieties of the common Yew, the varieties of English Holly, landscape gardening, ornamental planting, hardy pictorial trees, trees and shrubs in large towns, an hour with the Hollyhock, Hyacinths, Zonal Pelargoniums in winter, spring flowers, and Camellias. The chapter on the latter is very complete and full of information on culture and varieties. Half a dozen questions propounded by Mr. Paul and then answered are worth quoting with their replies.

"1, Why are Camellias scrubby?—Answer, Because in cutting off the flowers they are usually cut with long stalks, and thus the eyes or wood-buds best stored with food are cut away and the new growth thrown on to eyes with a limited supply of food at their command. Or, as another and wholly distinct cause, insufficient heat or moisture is supplied during the period of growth.

"2, Why are Camellias mis-shapen?—Answer, Because the trees are not pruned sufficiently, or are pruned at the wrong season.

"3, Why are Camellias so often seen bearing feeble branches?—Answer, Because they are not sufficiently nourished. This may be that they are grown in an unsuitable soil; it may be that too little moisture and heat are given during the period of growth; or it

may be that the soil becomes soddened from insufficient drainage or too much water when the plants are not growing or flowering.

"4, Why are the leaves of Camellias yellow?—Answer, Because grown in an unsuitable soil, or kept too dry when flowering and growing, or too wet when in a state of comparative rest.

"5, Why do the flowers of Camellias expand indifferently?—Answer, It is with Camellias as with Roses, some kinds—*Valtavedo*, for example—are so full, or the petals are so tightly folded, that the flowers will not expand fully in our climate without the aid of heat. However healthy and satisfactory the plants may otherwise be, such kinds require more heat and moisture than is good for others so soon as the buds show colour. But the same phenomenon is sometimes met with even in kinds not over-double. The cause, then, is unsuitability of soil, or too much or too little water.

"6, Why do the flowers drop off before expansion?—Answer, This is natural to some kinds, of which the *Waratah* is an example, and such kinds should be avoided. In other cases the causes are similar to those which bring about indifferent expansion—namely, bad soil and injudicious management of watering."

An important contribution to the third portion of the work is the article on fruit culture for profit in the open air in England, which was read before the Society of Arts in 1889. Mr. Paul sets forth the pros and cons fairly and moderately, supplementing them with much practical advice and information. He points out the advantages and disadvantages of our climate for profitable fruit culture, and indicates the salient features of successful procedure, notably the importance of a judicious selection of varieties.

"In this part of the business," says the author, "there is, perhaps, no guide so safe as that of actual experience. Sorts that are known to grow well and bear well in any particular district may, provided the produce sells well, be safely planted there. But this experience is always limited. Valuable guides in the selection of sorts are also to be found in the period of flowering and the frost-resisting powers of the blossoms.

"As regards the period of flowering, some sorts flower early, others late. A difference of three or four days often makes the difference of a crop or no crop, as in those three or four days a frost happens that destroys the embryo of the early or expanded blossoms, which leaves the unfolded buds unscathed, and this frost may not occur again in the same season. Then as to the frost-resisting power of the blossoms. This is not the same in all cases; some varieties appear naturally less susceptible of frost than others. Again, in some I have observed that the embryo is better protected by the size, form, and substance of the petals which surround it. In some cases the petals, when unfolding, fall into a horizontal position, leaving the embryo fully exposed; in others they remain incurved, offering material protection. Then the substance of the petals differs considerably, practically almost to the extent of the difference in our own clothing between a summer and a winter coat.

"It has often been a matter of surprise to me that these important facts have not commanded more attention from our horticulturists. Here statistics would be of immense value to the cultivator, and those who have the leisure and inclination to provide them would be rendering a national service in doing so."

Here correct observation is supplemented by a suggestion, the adoption of which would lead to the dissemination of much valuable information. The difference in substance observable in the blossom of different varieties of Apples forms the subject of another useful contribution, which originally appeared in our columns in 1890. This, and a table accompanying it, shows the date of flowering, the name, size, and shape of the flowers, the shape of the petals, and the substance of the latter of ninety-five varieties of Apples, and should be studied by every fruit grower.

Space only permits of a brief reference to other chapters, such as that on "The Literature of Ancient and Modern Gardening," read before the Royal Society of Literature in 1887, and we must conclude the imperfect record of more than one pleasant hour with Mr. Paul's work by the expression of a hope that the writer, who has added strength and dignity to horticultural literature for half a century, may have many years in which to use his pen for the pleasure and enlightenment of the generation growing up around him.

SEASONABLE NOTES.

AGAPANTHUS UMBELLATUS.

AGAPANTHUS UMBELLATUS, or the Blue African Lily as it is more often called, is such a well-known and popular plant that one hardly needs to make any remark whatever about it. Too much, however, can hardly be said in its favour, and no garden can be considered complete without it. The plants can be grown in large pots or tubs outside during the summer months, and are exceedingly useful for embellishing terraces, balconies, and steps. They are not quite hardy, and must be removed in the autumn, placing them where they will be protected from the frost, and during the winter they should be kept nearly dry.

As soon as the frosts are over they may be again placed in their summer quarters. During the summer, and especially in dry weather, the plants can hardly be overwatered, and liquid manure, if applied at intervals, would prove very beneficial to them, especially when they are throwing up their flower spikes. The heads of clear blue flowers are produced in great profusion during the summer and autumn months, the stems rising to a height of from 2 to 3 feet. One can imagine the beauty of such when associated with other well-known autumn flowers, although they require no "setting off" to exhibit their remarkable beauty. We have some large plants in tubs here carrying twelve to fifteen spikes on a plant, and averaging from seventy to ninety flowers on a spike.

CLEMATISES.

The Clematis is, perhaps, the most popular and valuable of all our hardy climbers. The profusion of their blooming, richness of colouring, and comparatively easy cultivation have raised them to the front ranks for covering walls, bowers, trellises, arches, and pillars, to all of which places they are well adapted. Few can have any idea of their beauty till they have seen them well grown. They continue in bloom from May till October, producing abundance of flowers during that period; and it is almost impossible to over-estimate the gorgeous effect these plants are capable of producing and maintaining during a very considerable period. I do not know of anything to surpass Clematis Jackmanni when planted in clumps or masses at intervals on the herbaceous borders.

COLCHICUMS.

Colchicums are without doubt some of the most beautiful of all the hardy autumnal flowering bulbous plants. They are similar to the Crocus in form and habit, but the flowers are much larger and are produced in the autumn. When planted in clumps, large masses, or edgings to beds and borders they produce a very fine effect.

ANEMONE JAPONICA.

Anemone japonica differs essentially from other species of this family of plants on account of its autumn-flowering habit. It is undoubtedly one of the best and most useful of our autumn blooming plants. The plants grow to a height of from 2 to 3 feet, and their flowers, which are produced in great profusion, are as much as 2 or 3 inches across. They will thrive in almost any situation, but if planted in good soil and given a favourable position much finer specimens can be produced. The flowers, which are borne on long footstalks, are most useful for cutting purposes, lasting a long time in water.

KNIPHOFIAS.

Kniphofias, or Tritomas as they are more commonly called, are very striking and ornamental autumn-flowering plants. They are, in fact, the most gorgeous of our outdoor plants, and for the wild garden, shrubbery, borders, or dotted about in sheltered places on the lawn, or planted at intervals along the carriage drive, few things are more effective during the autumn months. Their stately spikes of flame-coloured flowers rise to a height of from 3 to 4 feet,

and are most showy long after Dahlias and other autumn flowers are cut down by the frost. They are equally suitable for planting in lines where there is a background of green foliage, the latter being a most pleasing contrast to the orange-red of the Kniphofias. I have, however, never seen it to better advantage than when it is associated with Anemone japonica. The effect, when so employed, at this season of the year is really beautiful.—GEO. PARRANT, *Ashby St. Ledgers Lodge, near Rugby.*

RHODODENDRON MULTICOLOR NEPTUNE.

THIS plant was exhibited at the meeting of the Royal Horticultural Society on October 4th by Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, and a first-class certificate was awarded to it. The specimen shown was like a miniature standard, about 1 foot high, and bore seven clusters of rich scarlet flowers, as represented in the engraving (fig. 44). The flowers are about 1½ inch in diameter, and are most effective. This Rhododendron is a greenhouse variety, and



FIG. 44.—RHODODENDRON MULTICOLOR NEPTUNE.

one of Mr. Heal's hybrids, but, like the type, will thrive best in a warmer temperature. When well known it will doubtless become a general favourite.

MICHAELMAS DAISIES.

MANY of the perennial Asters or Michaelmas Daisies have long been inmates of British gardens, but for many years their beauty and usefulness remained unrecognised and unappreciated. In this respect, however, they have only shared the fate of many other fine hardy flowers now being rescued from obscurity and neglect, and attaining to a height of popularity they never previously obtained. It is gratifying to see how much Michaelmas Daisies are admired and the great improvement that has been effected by their extended cultivation in gardens, and by the introduction or raising of new varieties.

That this improvement in the way of introducing or raising new sorts has been productive of good results will be readily admitted by those who have grown Asters for many years. Here and there one might have seen a few good plants, but in most instances the Michaelmas Daisies were only represented by varieties of somewhat ineffective colours, and in some cases even of ungainly habit. Now all this is being changed, and these useless varieties are being weeded out to give place to others of finer colour and more

graceful habit. And who can say too much in praise of many of these plants? They come to adorn our gardens with the most harmonious blendings of colour, when but for them the Sunflower and the Tritomas would make the garden brilliant but not beautiful. Many of them come into flower when there is but little else to brighten the garden late in October and November, and when but for them there would only be seen the ruins of the summer blossoms. Look, too, at the value of the flowers for cutting, many of them forming most graceful sprays of the highest degree of beauty. Then the hardiness of most of the varieties is unquestioned. The cultural care required is of the slightest, and apart from their beauty when in flower many of them are from an early period of growth of exquisitely graceful habit. With so many claims to our consideration it is evident that a great future is before the perennial Asters.

It is unfortunate, however, that so much confusion has existed, still exists, and is still likely to exist, regarding the nomenclature of the species and varieties. This is, I believe, unavoidable from the difficulty of distinguishing properly between the various species. Some years ago I carefully studied Dr. Asa Gray's monograph with a view to identifying some of the Asters in my garden. The task was an impossible one in many cases, so similar were many of the descriptions, and I understand this was the feeling of Dr. Gray himself. I can therefore fully appreciate the difficulty of the task before the Committee of the Royal Horticultural Society, which has in hand the revision of the nomenclature of the genus, and I can only hope that their nomenclature may be adopted by the trade, that nurserymen in general may have the names of their plants verified, so that the purchaser may know that the name he has with his plant is one given by a good authority. As it is, some of us have been well nigh in despair, so difficult has it been to get plants true to name, or to give the true names to those received or picked up without a designation. It does seem a little strange, however, to find classed along with the varieties of *novi-belgii*—mostly of tall stature—such plants as *A. novi-belgii* Pleiad and *A. n.-b.* Pygmalion; each only growing about 1½ foot in height. I have not the slightest wish to doubt the correctness of the classification, I accept it unreservedly; but it shows us how one's preconceived views may be rudely shattered by a conference of experts.

As already indicated little difficulty will be experienced in the cultivation of most of the Michaelmas Daisies. Almost any soil or any situation will suit the vast majority of the species or varieties, the exceptions being one or two species, such as *A. diplostaphioides*. Nearly all will do as well on a light soil as on a strong, heavy one, provided that a sufficient supply of water can be given in dry weather. Should this not be available the plants frequently lose some of their lower leaves, and their beauty is consequently much impaired. Like the Chrysanthemum, their attractiveness is greatly enhanced when the foliage is in perfect condition, and on light soils every attention should be given in order that they do not suffer from drought.

It is somewhat difficult in the present condition of the nomenclature to give a selection of the best kinds. Indeed, when it is at all practicable, it would be well for the purchaser to see the plants in growth before making a choice. This is, however, seldom convenient, and the notes which follow are intended to indicate some of the best and most distinct of the forms. It must of course be understood that the heights given are only approximate ones, as the plants vary much according to the soil and supply of moisture. There are plants among the Asters suitable for almost any position, and even the rockery may be decorated with some of the less vigorous growing species. Well known among these is the dwarf but beautiful, little *A. alpinus*, flowering early in July, and bearing good-sized bright purple flowers on stems from 6 to 9 inches in height. The white variety is very pretty also, and the newer *A. alpinus speciosus* is exceedingly fine indeed with its large violet-blue flowers in July. Such species as *A. Stracheyi*, with pale blue flowers on stems 4 to 6 inches high, are also useful for this purpose; while for rougher rockwork some of the dwarfer forms of the other species might almost be included.

It is as border plants, however, that the Michaelmas Daisies are most valuable, and foremost among them is the useful and beautiful well known *A. longifolius formosus*. This is of graceful habit, and when in full bloom is literally covered with bright crimson flowers. There seems to be considerable variation among the plants supplied under this name, and an Aster I saw under the name of *A. Madame Soymier* appears to differ only in a slight degree from some of these. All are very beautiful, however, and growing only to about 2 feet in height they will be found very useful. Exquisitely graceful, too, is *A. ericoides*, only just beginning to open here and in Edinburgh. This grows about 2½ or 3 feet in height, and has beautiful sprays of small white flowers. Another very beautiful Aster which I have had for over fifteen years is

A. diffusus horizontalis, forming a beautiful bush composed of branching stems of deep green, almost purple, foliage, literally swarming with small white flowers with red centres. This generally flowers with me in November, and withstands the most severe frosts in this locality.

Among the most beautiful species of tall habit is *A. novæ-angliæ* growing 5 feet or more in height, flowering with me well into October and having fine rose-coloured flowers. The variety *A. n.-a. ruber* is, however, of finer colour than the type. The varieties of *A. novi-belgii* are now very numerous, and it is difficult to select the best. I find *formosissimus*, growing about 4 feet high with rosy lilac flowers in October, to be one of the best of the tall varieties. *A. n.-b. Robert Parker* is also a good variety. Very beautiful and very distinct is *A. pyrenæus*, which, unlike most of the others which are generally natives of America or the Himalayas, is a native of the Pyrenees. This grows about 2 feet high and has fine violet flowers with slightly reflexed petals. Of specially fine colour, although with less perfectly formed flowers than some, is *A. spectabilis*, also growing about 2 feet high with flowers of exquisite blue-purple. Seldom seen is *A. Thomsoni*, growing here about 3 feet high with fine flowers of what one might call a crimson blush. Of a somewhat similar colour, but whiter, and also of dwarfer habit, is *A. salsuginosus* growing about 18 inches in height.

To speak of so many species and varieties in detail would occupy too much space, and most of the others can only be mentioned. I should not like, however, to omit drawing special attention to an allied plant which I have as *Galatella linifolia*, but which is, I understand, also known as *Aster linarioides*. This grows about 3 feet high and has narrow, pretty foliage and is completely covered with flowers of a fine purple. It comes into flower in the end of July, and is not yet out of bloom although past its best. Very desirable plants also are *A. novæ-angliæ pulchellus*, deep violet; *A. amellus*, deep blue, 2½ feet; *A. speciosus superbus*; *A. lævis*, deep blue, 5 feet; and *A. puniceus*, blue, about 3 feet high and flowering in August. Those who admire the white-flowering sorts will find *novi-belgii* Harpur Crewe and *n.-b. John Wood* to be well worth growing.

With a good selection of Asters and a number of the best of our autumn flowering plants a garden may be rendered interesting until near the close of the year, and it is to be hoped that many will embark in the cultivation of these fine flowers which seem to mock at the inclemency of wintry days and to brighten up the borders which without them would be dull and bare.—S. ARNOTT.

DISCUSSION ON APPLES.

ROYAL JUBILEE.

WHILE the discussion is going on in the *Journal* on the merits and demerits of certain Apples I thought perhaps a note on Graham's Royal Jubilee might be interesting to some of your readers. The tree of this variety which I possess was purchased two years ago from Messrs. G. Bunyard & Co. It is a small pyramid, and did not bear any fruit last year, but this season up till the first week in August it bore fifteen fine Apples, during which month, however, three dropped. I picked the remaining twelve last week and weighed them. Together they turned the scales at 7 lbs., the largest weighing 12½ ozs. Although carrying such a heavy crop the tree has made an average growth of 8 inches. I may say that the Apples have been admired by all who have seen them. I would advise fruit growers to give this variety a trial, and I do not think they will be disappointed. This is also the opinion of other practical men in this neighbourhood.—W. PASCOE, *Sydney Lodge, Hamble, near Southampton.*

HAMBLEDON DEUX ANS.

UNFORTUNATELY this has been the favourite Apple amongst the cottagers in this neighbourhood for many years to the exclusion of nearly all other sorts. The result is that nearly every garden in which an Apple tree is growing possesses one of this sort, which originated eight miles from here, and is sometimes called the Green Blenheim. Although this is a free bearer and a good keeping sort in most cases the quality is bad, even for cooking. There are exceptions, but that is owing mainly to the kind of soil in which the particular trees are growing. Hereabouts it is said there are two sorts. A person gathered thirty bushels of this sort last week, which realised an offer of 2s. per bushel, whereas if Ecklinville or Warner's King had been in question these would have brought considerably more.—E. M., *Swanmore, Hants.*

MÈRE DE MÉNAGE.

ALTHOUGH this Apple is generally looked upon as a shy bearer it is not so in all cases. I can testify to its regularity in producing

good crops for the last ten years, and this year the trees here are laden with extremely highly coloured fruit. The method of pruning and training practised may have something to do with the free cropping qualities of our trees. The branches are kept very thin, all side growths being freely pinched off during the summer. The points of the branches are allowed to extend almost as long as they choose; plenty are now 4 feet long without any side shoots. These branches are simply wreathed with fruit, which in our strong calcareous soil never fail to colour splendidly. Although our trees are regarded as bushes they are now 15 feet high, and were it not for the difficulty in gathering the fruit I should allow them to grow still higher.—E. M.

BRAMLEY'S SEEDLING.

My experience with this variety is somewhat limited, but from its appearance and manner of growth and cropping propensities I am positive it is an Apple that should be grown for late use. It keeps well into April, and some say longer; anyhow it has all the appearance of so doing. The tree is an excellent grower, not one of those long lanky shoot-makers, but very sturdy both in foliage and wood; the leaves are intensely dark green. Standard trees planted here in November, 1890, are bearing heavy crops of large, highly coloured fruit, which are, perhaps, not very handsome to look at, being somewhat flat with a deep eye. This variety, however, has all the characteristics of what is claimed for it, being a free grower, heavy cropper, and late keeper. It is said to grow freely in any soil.—E. M.

TOWER OF GLAMIS.

In a young state the trees of this variety are certainly far from being as precocious as Prince Albert, Bramley's Seedling, Jolly Beggar, Duchess of Oldenburg, and a few other now very popular Apples; but when they attain a fairly large size, or say any age, from six years and upwards, no possible fault can be found with them. It seems somewhat impatient of hard pruning or stopping; but if healthy trees are "given their head," there is no mistake about their cropping qualities. Since I have allowed a previously closely pruned tree to form a number of fresh branches the improvement has been most marked. Nearly every season these young branches are weighted down with very fine fruit; and this season the crop is better than I have ever previously seen of the variety, and that, too, in spite of a heavy weight of fruit being taken from the tree last year. Tower of Glamis is a fine Apple, the fruit being extra large, somewhat conical in form with rather high "shoulders," that is to say, prominent ridges, while the colour at first is pale green, changing to a clear yellow. It is in season from November to the end of January, and is an excellent cooking Apple. I have had no experience with this old variety on a dwarfing stock, but can strongly recommend it on the Crab stock and low stems for planting where plenty of room can be given it.—W. IGGULDEN.

BEAUTY OF HANTS.

This is supposed to be a seedling from Blenheim Orange, and by some said to possess the quality of its parent, but in point of flavour I have not found it equal to the old favourite. The tree is a wonderful cropper; our one standard has more fruit on it than any other in the orchard for its size, and we have some very full crops. The fruit is smaller than the true Blenheim, but exactly the same shape. Where Blenheim Orange will not succeed this is a very good substitute.—E. M.

COCKPIT.

How seldom now do we see this Apple. In Yorkshire it is a great favourite as an orchard tree on grass, invariably giving a full crop of fruit of medium size. The skin is green, changing as it ripens to a greenish-yellow, with a faint tinge of orange next the sun, covered all over with small russety dots. It is an excellent cooking Apple, and a free grower.—E. M.

CHATLEY'S KERNEL.

This Apple does not appear to be so generally known as it ought to be considering its many qualities. The tree is an excellent bearer under almost any conditions; newly planted trees give a full crop the same year. The colour of the fruit is rather peculiar, is deep red, having small spots on the surface, which renders it attractive and distinct. Its keeping qualities are of the best.—E. M.

PEASGOOD'S NONESUCH.

We are not, in judging Apples, much in the habit of applying to kitchen sorts any other test than that of size and beauty. Hence it will probably always be the case that Peasgood's Nonesuch, without doubt the handsomest, nay, the most beautiful of all our large Apples, will long take a prominent place in kitchen collections. Were it a question of cropping, quality, and keeping pro-

perties we should probably select New Hawthornden or Lane's Prince Albert in preference. Peasgood's Nonesuch is a light, soft, and somewhat fugitive Apple, generally done by the end of October. It is not a great cropping variety like Stirling Castle or Frogmore Prolific, or indeed will it compare with scores of smaller though good kitchen sorts. The tree, too, is a spreading grower. However, we cannot get away from the wondrous size and beauty found in the fruits. All the same I should not advise that it be planted largely, especially for purpose of profit.—D.

AMERICAN MOTHER APPLE.

AMONG high-class varieties that come in so well for dessert purposes, American Mother is one of the best. It is just in season now; flesh of a yellowish tint, soft, juicy, and exceedingly pleasant, with a fine flavour. The fruits are roundish, conical, almost egg-shaped, and colour finely on the side next the sun. We have not many American sorts that are high class, but this is one that merits general cultivation. It has done remarkably well this year. American Mother and King Harry, certificated the other day, are valuable October Apples. There is an English Mother Apple also, less conical in form, hardier, and rather later. The tree a very strong grower, and crops well when in years. If good October varieties be grown for dessert the later and better keeping sorts need not be poached upon until November and through the winter.—A. D.

BAUMANN'S RED REINETTE.

I NOTICED several young trees of this Apple in Kent a few weeks ago that were bearing heavy crops of good sized well-coloured fruit. It seems to be a good bearer in a young state, and from its appearance I consider it will prove a valuable sort for market purposes, also a very useful variety for the private grower.—W. H. DIVERS, *Ketton Hall Gardens, Stamford.*

APPLES FOR LOCALITIES.

TIMELY, interesting, and may be turned to most profitable account are the notes on Apples which are now appearing in the *Journal*. Discussion is invited, and if readers will give lists of Apples known to succeed in their different localities, a good work ought most certainly to be accomplished. This, to my mind, is the one thing essential, and will answer better than saying that a certain variety will only succeed in a certain kind of soil, when, perhaps, the next issue may contain a note from some correspondent giving quite an opposite view. I am fully convinced that there is much unsuccessful culture carried on through the buying of poor stunted trees which have been planted in thick rows, and have had no attention paid to them beyond, perhaps, a slight shortening of the shoots. Perhaps they are at last sent to some auction room, and there sold as bargains to persons who in a short time have reason to regret it. There is nothing like purchasing good, sound, healthy trees, and we have no cause for complaint when we can buy such trees for a few shillings each from some of our best nurserymen—trees which have been subjected to a proper system of culture by persons who thoroughly understand their wants, and I would advise all who are ordering soon to bear this in mind.

I will now speak of a few varieties which are always sure bearers here, six miles from Liverpool. Our soil is about 18 inches to 2 feet 6 inches from the solid clay, not too well drained, and very wet and cold in the winter time. Keswick Codlin, which, I believe, was the first one mentioned in the discussion, never fails to bear a good crop, and is this year better than ever. Lord Suffield, from trees five years old up to thirty years, has never failed, and the fruit is very fine. Hawthornden is equally good. Stirling Castle, is a prodigious cropper and the fruit fine. Cellini is very good. The Queen, although a small tree, has been good. Ecklinville, Warner's King, Mère de Ménage, Yorkshire Greening, Golden Noble, Brabant Bellefleur, and Beauty of Kent, the latter bearing an enormous crop, are all excellent midseason varieties. Blenheim Orange is very fine every other season, and if the tree is not pruned closely there is always a crop. In the later varieties are Tower of Glamis, Flanders Pippin, Bedfordshire Foundling, Betty Geeson, Lane's Prince Albert, Dumelow's Seedling, Northern Greening, Alfriston, and Norfolk Beefing, all excellent. Of dessert varieties, Mr. Gladstone, Irish Peach, Kerry Pippin, Ribston Pippin, Cox's Orange Pippin and King of Pippins, the old Nonpareil and Scarlet Nonpareil, Reinette du Canada, Sturmer Pippin, and Court Pendu Plat are first rate. I may mention that all the above are grown as bushes or standards, but Cox's Orange, Sturmer Pippin, and Scarlet Pearmain are excellent on walls.

Regarding the paragraph headed "A Woman's Choice," I can only say that it is an excellent one, and as grown here Stirling Castle is just as heavy a cropper, and gives us a longer succession than Ecklinville, and therefore should prefer it.—R. P. R.

SIXTY YEARS OF HORTICULTURAL PROGRESS.

(1760—1820).

(Continued from page 163.)

DR. ERASMUS DARWIN, ancestor of a man destined to become still more famous than himself, certainly far more philosophical and acute in observation, became known to gardeners towards the end of the last century by some books he published, in which fact and fancy were curiously mingled. Apart from his novel views concerning the way in which, as he thought, all living things were formed, he posed as one who put the art of gardening in a new aspect, because he threw upon it the light of imagination, and showed that poetry might lend a charm even to the humblest vegetables. It may have been that his speculations in verse did, for a time, help to cheer gardeners, who were passing through a rather gloomy crisis just then, but according to some critics the chief good he did was to afford some a hearty laugh. Even his personal preference for the Cabbage tribe could be put into melodious verse. After referring to the liking others had for Lettuces, Cucumbers, Asparagus, Artichokes, Peas, and Beans, he delineates his own partiality thus:—

"This boon I ask of Fate: Where'er I dine,
O! be the Proteus form of Cabbage mine;
Kale, Colewort, Cauliflower, or soft and clear,
If Broccoli delight thy nicer ear,
Give, rural Muse! the culture and the name
In verse immortal to the rolls of Fame."

By profession a physician, Erasmus Darwin was naturally led from the study of medical plants to the consideration of various species growing here and abroad, their uses, and modes of propagation. He had been, for some years before, a contributor of verses to magazines; but it was not till 1781 that he published his "Loves of the Plants," consisting of two parts, with sundry notes and observations, a poem which had a good deal of popularity, though it was successfully parodied by the author of the "Loves of the Triangles." A much higher flight was attempted in his "Zoonomia," meant to explain the origin of animals and plants on the theory that all were produced from the changes of irritable fibres. This appeared in 1796, and five years later came a quarto of 600 pages on "The Philosophy of Agriculture and Gardening," but it did not gain any attention, perhaps owing to its diffuseness. He also wrote a pamphlet on the drainage of marshy land, and on an improvement in the drill plough. His appearance was so jovial that he might have passed for a farmer rather than a doctor; but he stammered painfully.

There were some gardeners, whose names have been well nigh forgotten by this generation, to whom horticulture was indebted, as they gave their experience in print on subjects they had well studied at a time when direct intercourse amongst workers was often impeded through obstacles now unknown. Thus, there was Weston, who first made an extended series of observations on the methods practised in the most successful market gardens and nurseries of London. Then he published towards the end of the century his "Gardeners' and Planters' Calendar," containing cultural directions arranged in the months, and also suggestions for improvements in raising trees and shrubs. Meader, gardener at Sion House, brought out a work of a somewhat similar nature, with an appendix on the new plans of forcing Grapes and wall fruit generally. Speechly, for many years in the employ of the Duke of Portland, broke new ground in his treatise published at York upon the "Culture of the Pine Apple and the Management of the Hothouse," since he took up minutely the subject of the various insect pests occurring in houses, and pointed out how they should be dealt with. A German named Græffer, who came over to a situation in the Apothecaries' Garden, Chelsea, and afterwards joined Gordon in the Mile End Nursery, prepared about 1790 a very elaborate catalogue of perennials suitable for outdoor culture, with a list of selected annuals appended. Both in Scotland and England the works of Walter Nicol, jun., whose father was a designer of gardens in the north, became standard books of reference. His "Forcing Gardener," illustrated, appeared in 1798, and he was on a tour seeking information to complete his last volume, the Planters' Kalendar, when he died suddenly. This was finished by Sang, and published in 1811.

Several medical men besides Darwin devoted themselves in their leisure time to horticultural pursuits and gave the public some of their new ideas; Dr. Anderson, for instance, who, after cultivating land extensively in Aberdeenshire, came to Isleworth, near London, where he put up some hothouses on a plan of his own, the heat being derived entirely from the sun, and artificial warmth was dispensed with, but his patent was a failure. Much information was contained in his six volumes, entitled "Recreations in Agriculture," &c., which was rather autobiographical. Another physician,

Dr. Falconer of Bath, was a great student of horticultural history, and compiled an outline, published in 1789, of the methods recommended by early authors, with notes on the gardens of the ancients. He also wrote on the diseases to which gardeners might be specially liable, and how these might be warded off or speedily cured. Divines came forward sometimes with new proposals, like the Rev. Phillip Le Brocq, who advocated a method of training all sorts of fruit trees near the ground; a hint regarding this, however, had been dropped by Lord Bacon centuries before. Haworth, the well known entomologist, was an amateur in gardening, and he published a list of the species of Crocus and Mesembryanthemum, adding instructions for their culture.

Great progress was made in the culture of the Vine during the sixty years of George the Third's reign. The old gardeners had not been careful in preparing suitable soil for their borders, and several good composts were devised, as by Griffin of Woodhall, who received, it is said, the first medal awarded to a Grape grower. He used a mixture of one part of old manure, one of brick or lime rubbish, and two of loam, laid upon a subsoil which would drain well. In his very productive vineries he had a single shoot led up under each rafter, getting his fruit from the side spurs, which he had cut down to single eyes every winter. Mr. Seton, an amateur of Stamford Hill, noticing that the Vine produces the most vigorous shoots at its extremities, while the lower parts were nearly unproductive, adopted a new plan of horizontal training, by which the whole of the fruit-bearing part of each Vine was very nearly on the same level. He thereby succeeded in getting an abundance of Grapes from the long fresh shoots, also from the old wood. This was somewhat similar to the succession method of pruning advised by Abercrombie and others. Forsyth advocated laying the shoots in a serpentine form, and McPhail showed that the old zig-zag training, which might do for walls or trellises, should not be followed in houses. He opposed too early forcing, but Nicol was introducing the practice of making a start in autumn, which he found usual amongst the Dutch growers. Apparently, it was from Flanders that the practice was introduced, which became very popular, of covering Vines upon walls with temporary frames of glass, stimulation being given by stable manure. The usual way of obtaining new Vines was by cuttings, though Speechly preferred to get them from eyes, and layering found great favour amongst Scotch growers. Peaches were now frequently forced in houses. Dwarfs, two years trained, were usually introduced in November; these were pruned during the spring, fan-training being mostly adopted.

Forcing Cherries is a less important matter than it used to be, owing to the free supply of foreign fruit at present, but the Cherry house gave much trouble to Georgian gardeners, their failures sometimes arising from the neglect of sufficient ventilation, and Nicol proved that air should be freely admitted in February. He, with M'Phail, recommended for forcing the Morello and the Mayduke. It was usual to have a trellis at the back for wall-trained dwarfs, and rows in front of dwarfs and "riders" mixed. Figs in pots were often placed in Cherry houses, but they required more heat than was usually given there, and Neill succeeded in getting large crops from Figs planted under the shade of Vines. Peach houses, for affording supplies of Peaches and Nectarines in June, had greatly increased in number at the beginning of this century, the crowding common in the old houses being avoided, the temperature better regulated, and the suggestion of Knight adopted that the air and sun be at times freely admitted to the fruit while maturing.—J. R. S. C.

FUNCTIONS (AND WEIGHT) OF VINE LEAVES.

HAVING read the very interesting and instructive articles in the *Journal of Horticulture* on the "Functions of Vine Leaves," I take the liberty of forwarding you samples of leaves produced by Vines that were planted 1st March, 1891, having been previously cut down to 12 inches in length. They made good wood, but were not fruited last year. This year they were cut down to the bottom of the rafter. The vinery was closed 20th February, and growth started strongly. I left from eight to ten laterals on each Vine from the ground to the bottom of the rafter.

From the seven Vines we had fifty bunches of Grapes, ranging in weight from $\frac{3}{4}$ lb. to $5\frac{3}{4}$ lbs. One Vine produced 23 lbs. of Grapes. The bunches quite touched each other, being only from three and four joints or eyes from the cane, which showed them to have been well ripened. The first fruit ripened on the 10th of July. The vinery has a western exposure. The Vines were managed on the close-stopping system advocated by Mr. Iggulden. I do not know of any other way by which you could produce better foliage.

Good leafage is of primary importance, because the higher the

development of foliage the more perfect will be the elaboration of the sap and its assimilation by the Vine. I adopted the system of stopping Vine laterals at the bunch as the result of observations made during the cultivation of Melons and Cucumbers for the last ten years. I have found that both of those fruits (for in this reference we may call the latter a fruit) swelled more quickly and with greater certainty when stopped at the fruit, than when one leaf was left beyond them in the orthodox way. As regards Cucumbers, the plan enables you to take double the quantity of fruit off a given space, and does away with the necessity for thinning the fruit, as they come in the proportion the plant can support. There is no wasted energy so to speak, as the first fruits are half grown before the second one appears.

I may state that the girth of the Vines from which the leaves were taken are at 2 feet from the ground, $3\frac{3}{4}$ inches, at 9 feet from the ground, or 7 feet up the rafter, $2\frac{3}{4}$ inches.—JOHN SWAN, *Gardener to A. L. Holmes, Esq., Mansefield, Kilmalcolm, Renfrewshire.*

[The Vine leaves sent by our correspondent are very fine indeed. We have seen many of greater expanse, but not many heavier according to their size—a much more important test of value. The leaves are a foot across, and five of them with the footstalks weighed 5 ozs., the sixth being withered weighed only three-quarters of an ounce. We once weighed a leaf taken from a young Vine at Abberley grown by Mr. Arthur Young. This leaf weighed $1\frac{1}{4}$ oz., and the average of those on the Vine would be about the same as those before us. The girth of one of the leafstalks in its thickest part, half an inch from the base, is $1\frac{1}{8}$ inch. Growers of Grapes can now measure and weigh a few fine Vine leaves, and note how far they exceed in substance those referred to. It will be observed that the rods are an inch thicker 2 feet from the ground than they are 9 feet above it. The reverse is often the case when the stems from the ground to the base of the rafters are denuded of growths. Mr. Swan evidently wastes no space. Mr. Iggulden will assume his happiest smile on reading the experience of his supporter. Mr. Dunkin will probably want to know something of the character of the crop the Vines produce next year, and not a few readers will feel a desire to hear something about the border in which Mr. Holmes' Vines have grown so well.]



EVENTS OF THE WEEK.—The ensuing week will not be a particularly busy one. The National Chrysanthemum Society's Exhibition, which opened at the Royal Aquarium, Westminster, yesterday, October 12th, will continue to-day (Thursday) and Friday. The usual Committee meetings of the Royal Horticultural Society will be held in the Drill Hall, Westminster, on Tuesday, October 18th, when prizes to amateurs for Apples, Pears, and Grapes will be offered. A paper on "Cycads," by Mr. W. Carruthers, F.R.S., will be read at the afternoon meeting. Several sales will take place, for particulars of which see advertisements.

— THE WEATHER IN LONDON.—The present week opened dull, wet, and cold, rain falling heavily in the metropolis on Sunday morning. As the day advanced, however, it cleared, and has been bright but cold ever since, the wind being in a north-easterly direction. Several slight frosts have occurred at night. At the time of going to press the barometer is firm, and there are indications of the fine weather continuing.

— WEATHER AT LIVERPOOL.—Perhaps at no time during the whole of the present season have we been visited by such incessant rain as during the past week. The only portion of fine weather was on the Tuesday, the Monday preceding it being a pitiless downpour. Since Tuesday rain has been almost continuous, and the gale of yesterday (10th inst.) caused great destruction amongst the fruit, bringing it off the trees, although not ready for gathering. Potatoes are badly diseased, and in some places the fields are flooded. There is a quantity of corn not yet secured, and altogether the season is one which is certain to cause a great amount of suffering amongst the smaller farmers.—R. P. R.

— GARDENING APPOINTMENT.—Mr. Samuel Scott, late gardener at Rathmore, and previously foreman at Brocklesby Park, has been appointed gardener to the Hon. Mrs. King-Harman, Rockingham, Boyle, Co. Roscommon, Ireland.

— NEMESIA STRUMOSA SUTTONI.—Messrs. Sutton & Sons send us flowers of this distinct and attractive annual, as they think it will interest our readers to know that the plant flowers freely so late in the autumn. It was figured in our columns at the time it was honoured by a first-class certificate, and we suspect this *Nemesia* will become a popular garden favourite.

— PERENNIALS AT CHISWICK.—A number of the later species and varieties of perennial *Asters* are now blooming in the Royal Horticultural Society's Gardens, Chiswick, where there is to be found probably one of the most complete collections of these plants in the world. They are well worth a visit from all lovers of the Starwort family. The collection of Apples has been stored in the fruit room, and as each variety is correctly named the attention of Fellows and others interested in the cultivation of the best kinds suitable for particular purposes is called to the fact. The Grapes in the large conservatory are now ripe, and the fine hanging clusters present a remarkably fine appearance.

— HARVEST FESTIVALS.—These are now the order of the day but seldom do the gardening charitable organisations derive any benefit from them. An exception, however, has been made at Shirley, near Croydon, where the Rev. W. Wilks, Secretary of the Royal Horticultural Society, is Vicar. Mr. Wilks made an appeal to his parishioners on behalf of the Gardeners' Royal Benevolent Institution, with the result that over £30 were collected at the harvest festival, and this sum, it is said, has been handed to that organisation. We commend Mr. Wilks on his thoughtfulness.

— DANIEL'S DWARF PERFECTION ASTER.—I should like to call the attention of readers of the *Journal* to this new Aster. It attains a height of from 10 to 12 inches, is freely branched, the flowers large, reflexed, and of every shade of colour found in *Asters*. The rose, pinks and whites are particularly beautiful. In my opinion this Aster will run the good old *Chrysanthemum* kind hard for first place when it becomes better known. I have both these varieties planted side by side, and the Perfection has a decided advantage over the *Chrysanthemum* in point of freedom of flowering, and is much more freely branched.—T. A., *Cirencester.*

— TRITOMA UVARIA.—Notwithstanding the number of excellent sorts now at command, there is no bolder, richer plant for lighting up autumn gloom in the garden than *Tritoma Uvaria*. For some time past a splendid bed of it has been producing a magnificent effect in the nursery of Messrs. Neal & Co. at Wandsworth. Seen from the road at a distance of 100 yards or so with an ample background of shrubs they present their most glowing appearance. The "pokers" are of a light orange-scarlet hue, and the shade is always intensified by a dark background. When planted alone they are hardly so striking, though by no means devoid of beauty. Bold clumps in large mixed borders are very fine.—WANDERER.

— LONG RUNNER BEANS.—So much did Runner Beans suffer from the frost of September in many places that they have ceased to crop. I was therefore unprepared to see such splendid samples of Beans at Earl's Court as Mr. Waite and Mr. Friend had in their collections, whilst Messrs. Wilkins and Lye had none. Mr. Waite's sample of Prizewinner was one of the best I have ever seen, and as an example of their quality I asked for and obtained one Bean, the which I found on reaching home to be exactly 10 inches in length, perfectly straight, narrow, and handsome. I made a rough tracing of it for future reference. I hardly think it will be possible to excel such a sample. The large Giant Runner Beans range from 1 inch to $1\frac{1}{4}$ inch broad, that is too coarse. The one in question was just three-fourths of an inch broad.—A. D.

— RHYTHM IN PLANTS.—Some interesting experiments in the artificial production of rhythm in plants have been exhibited by Francis Darwin and Miss D. F. Pertz, says a scientific journal. The plant under observation was fixed to a spindle, and by a clockwork escapement was given a sudden semi-rotation at the end of every half hour, which caused a series of alternations of the direction in which the plant tended to curve, through the influence of either light or gravitation. This induced a rhythmic state closely resembling the periodicity set up by the alternation of day and night. Stopping the clockwork gave a remarkable result. The plant continuing to curve with an acquired rhythm as before, having, in fact, learned and remembered the half hour period. This is precisely similar to certain natural rhythms, such as the regular opening and shutting of flowers for a short time after being placed in constant darkness.

— A PARK AT RAMSGATE.—A new park has recently been opened at Ramsgate. This is situated in the Ellington suburb, and together with the mansion was purchased for £12,400.

— NEW PARK AT ST. ALBANS.—Sir J. B. Maple, M.P., has recently intimated his intention to present twenty-four acres of land to the City of St. Albans to be made into a public park and recreation ground, and it is stated that the Corporation has now decided to accept the generous offer.

— PEAR DOYENNE BOUSSOCH.—Mr. Woodward, the well-known Maidstone exhibitor of fruit, showed some very fine specimens of this Pear, gathered out of doors and perfectly ripe, at Earl's Court on October 6th. It is a large and luscious Pear, not far removed from the front rank as regards flavour if eaten directly it is ripe.—W.

— MAGNIFICENT VEGETABLES.—Mr. Pope of High Clere, Newbury, has exhibited many grand specimens of his skill as a vegetable grower, but in the "trophy" arranged by him at Earl's Court last week he fairly excelled himself. It may be doubted whether so magnificent a collection has ever been put together by one grower. His Beet, Cauliflowers, and Leeks were superb.

— A MILLIONAIRE'S GARDEN.—It is stated that Mr. Jay Gould, the well known American millionaire, has a passion for gardening, and at his residence on the banks of the Hudson River he has a remarkably fine collection of plants. An authority says that Mr. Gould has recently instructed an American firm to erect a new conservatory at the cost of about £20,000.

— ANTS ON OAK TREES.—Dr. E. Rathay states that the galls of *Cynips calycis*, produced on *Quercus pedunculata*, attract, by their viscid secretion, a number of small ants, which he believes to be advantageous to the tree in killing quantities of caterpillars and other insects which are its natural enemies. He illustrates the value of this protection by the statement that the inhabitants of a single ants' nest may destroy in a single day upwards of 100,000 insects.

— AN AMATEUR'S POTATOES.—In many respects one of the most noteworthy exhibits at the recent Potato Show was the collection from Mr. E. Chopping of Milton, near Sittingbourne. He had not merely a dish or two of gigantic tubers, but seventy dishes of as smooth, clean, and even produce as ever graced a table. This is a better example of common-sense Potato growing than half a dozen heaps of deep-eyed monsters. Evidently the Judges thought the same, for they awarded a silver-gilt medal. They would have appreciated the collection still more had they been aware that Mr. Chopping is an amateur cultivator who has taught himself how to grow Potatoes, and attends to them in the time spared from a business quite distinct from horticulture. A silver-gilt medal is a high honour for a working amateur to win, but it was well deserved.—W. P. W.

— PYRETHRUM ULIGINOSUM.—This is a most useful as well as showy hardy perennial border plant. It grows from 4 to 5 feet high, according as the soil is poor or rich, and produces with great freedom large white single flowers with yellow centres, many of which measure 4 inches in diameter. The flowers of *P. uliginosum* are most useful for filling vases for the embellishment of rooms during the months of September and October. Stems 4 or 5 feet long furnished with dozens of flowering branches may be used entire in large trumpet-shaped glasses, intermixed with similar spikes of *Aster novæ-angliæ rubra*, *A. formosissimus*, rosy purple; *Rudbeckia Newmanii*, and *Helianthus giganteus*; or the branchlets may be cut with stems from 20 inches downward as desired. The plant is easily increased by division of the roots, and it will thrive in any light soil of average fertility.—H. W. W.

— MUSCAT OF ALEXANDRIA GRAPE WITHOUT HEAT.—In a lean-to house provided with pipes, but which has a boiler out of repair, I have a Muscat of Alexandria that has carried six fair-sized bunches this year. As I have had no heat from the pipes since early in the summer of last year I did not expect these bunches to come to much good, but I was agreeably surprised, for the berries are a fair size, and I cut four bunches quite ripe on 23rd of September. The other two, which were rather exposed to the sun, and being badly scalded were but sorry looking things, but the berries which escaped were ripe nearly a fortnight earlier than the rest. A Gros Colman has four bunches of fine berries still hanging, though only partly coloured, but, unfortunately, the berries keep cracking. I have not seen a Muscat of Alexandria grown in an unheated house before, so fully believed it would not ripen its fruit.—H. S. EASTY.

— STRAWBERRIES IN THE AUTUMN.—Occasionally Strawberry plants bear a crop in the autumn, and it is stated that some ripe fruit was gathered last week from gardens at Bokesbourne, near Canterbury, and in the neighbourhood of Ashford. The fruit was luscious and of full size.

— HOPS IN KENT.—The Hop harvest in Kent, which was not finally brought to a termination until the end of last week, will be noted for phenomenally large growths secured by a few of the most successful planters. One of these, an East Kent grower, is reported to have obtained as many as 4000 pockets, probably the largest individual growth of the season.

— FOREIGN FRUIT.—The first American Apples of the season arrived in London last week, and the majority of the fruit are beautiful in colour and of fine size. Californian Peaches of large dimensions are also plentiful in the London markets, but the flavour of the fruit is somewhat disappointing, being decidedly inferior to a good English grown Peach.

— DAHLIAS IN SCOTLAND.—We see by a note in the last issue of the *Journal of Horticulture* that Dahlias are cut down in the South by frost. We send you a few blooms of new and recently introduced varieties, to show that here in the West of Scotland we are still untouched by frost, although rain has fallen for six weeks almost continually.—DOBBIE & Co.

— FALLEN LEAVES IN ORCHARDS.—To rake up and burn the fallen leaves in the orchard or to put them in the manure heap, says an American contemporary, will lessen the liability of the spreading of fungus diseases, and the same is true of all other plants. Where fungus is very troublesome in any season such measures may be necessary to prevent its returning the next year with increased power.

— VIOLAS IN AUTUMN.—Beds of these in wayside gardens remind passers-by of the exceptional value of the plants from their long period of blooming. If cultivators will take the slight trouble to pick off the seed pods as they form, the plants flower on unweariedly for many weeks, after those which have been exhausted by early seed-ripening have lost their freshness and beauty. Violas are wonderfully cheerful at the dull season, notwithstanding their lowly growth, and their good qualities are not to be exhausted in the praise of a few lines.—P.

— THE PRINCES' STREET GARDENS ARBITRATION.—The proceedings in the arbitration between the Corporation of Edinburgh and the North British Railway Company as to the price to be paid by the latter for the ground taken by them in Princes' Street Gardens was resumed on Wednesday, October 5th, in Dowell's Rooms, George Street. The case for the Corporation, who claim a sum of £150,000, was continued, and the witnesses examined for them were Mr. Washington Browne, Edinburgh, and Mr. Alexander Frew, C.E., Glasgow; also Mr. James Watt, of the firm of Messrs. Little & Ballantyne, nurserymen, Carlisle, and Mr. John Methven, of the firm of Methven & Sons, nurserymen, Edinburgh. Both the latter gentlemen spoke principally on the question of amenity and on the laying out of the ground.

— AN AMERICAN OPINION OF ENGLISH GARDENS.—A distinguished American landscape gardener, who has been sojourning among us after a long absence, records his impression of our parks and gardens. He did not admire the famous terrace at Chatsworth, but found the late Sir Joseph Paxton's work in the Duke of Devonshire's pleasure ground more interesting than of old. This is attributed to growth; for this authority lays it down as a rule that justice cannot often be done to a landscape gardener's design in less than fifty years after the work has been initiated, nor then unless it has been in the hands of one in sympathy with Nature. Mr. Olmsted, the gentleman in question, is of opinion that the selection and disposition of trees and plants, the modelling of surfaces and the arrangement of roads and walks and architectural conveniences, with a view to pleasing general effects of scenery, have been of late much confused and often lost sight of in efforts to provide brilliant local spectacles, to display rarities, curiosities, and luxuries of vegetation, and to exhibit masterpieces of horticultural craft and costly garden bric-à-brac. Vast numbers of trees have, he says, been planted without knowledge or soundly formed anticipations of what they will become. Our visitor notes with satisfaction that since his last visit there has been a decided abatement of "the bedding-out nuisance" and "of all the garish and childish fashions that came in with it."

— **TWICKENHAM HORTICULTURAL AND COTTAGE GARDEN SOCIETY.**—The autumn Show of this Society will be held in the Town Hall, Twickenham, on Tuesday and Wednesday, November 15th and 16th. A liberal schedule has been prepared, prizes being offered for fruit, plants, vegetables, and table decorations, in addition to Chrysanthemums—the principal feature. Mr. J. J. G. Pugh, 2, Heath Road, Twickenham, is the Secretary.

— **A NEW VIOLA.**—Mr. G. McLeod of Chingford, a well-known raiser of Violas, sends us blooms of a new variety named J. B. Riding. The flowers are large, of good substance and perfect symmetry, while the colour is quite a new break. The top petals are of a rich purplish maroon, a puce tinge in the bottom petal, and a bluish centre with a deep yellow eye. It is a splendid variety, and in due course will doubtless become a great favourite.

— **AILSA CRAIG ONION.**—It would be interesting to know the true character of this Onion. From a packet of seed which I sowed last spring I have two distinct varieties. The majority of the bulbs are globe-shaped, the others are flat, a good deal the shape of Giant Zittau. Both are large handsome Onions, but I doubt whether they will keep so well as some other varieties grown by the side of them. Perhaps Mr. Deverill, or some of your correspondents who have grown this Onion, can explain which of mine is the true variety.—R. M.

— **MONTBRETIA.**—This Iridaceæ Cape bulbous plant is an exceedingly showy and useful occupant of the herbaceous border. The branching stems attain to a height of about 2 feet, and the drooping tubular flowers vary in colour from clear yellow to orange-scarlet, and show to great advantage above its pretty grass-like foliage. The Montbretia, or Tritonia as it is now called, does best in a well-drained sunny border. A compost consisting of three parts light loamy soil and one of leaf mould will suit its requirements admirably. Owing to its habit of growth, and the colour and form of the flowers, it is most useful for cutting purposes during the months of August and September. The varieties M. Crocosmæflora, M. Etoile de Feu ("Star of Fire,"), M. Gerbe d'Or ("Golden Sheaf,"), M. Potsi, orange and scarlet, and M. pyramidalis, apricot salmon, are among those most deserving of culture.—H. W. W.

— **THE WEATHER LAST MONTH.**—September was very changeable, but only a small quantity of rain fell up to the 20th. It was, however, mostly wet weather after, but we had nine bright days, four of which were either wholly or partly clear. Wind was in a westerly direction for twenty-seven days. We had a sharp frost on the night of the 17th, which did much damage to tender plants in exposed places, but did not kill them. Barometer has highest, 30.35 on 5th and 6th; lowest, 29.44 on the 30th. Total rainfall, 2.39 inches. Rain fell on thirteen days, the greatest daily fall being 0.79 inch on the 20th. Highest shade temperature was 71° on 13th; lowest, 32° on 18th; lowest on grass, 24° on the 18th. Mean of daily maximum readings, 63.60°; mean of daily minimum, 45.60°. Mean temperature of the month, 54.60°. The garden spring ran 20 gallons per minute on the 30th.—W. H. DIVERS, *Ketton Hall Gardens, Stamford.*

— **OUTDOOR PEACHES.**—A few weeks ago I saw some notes on outdoor Peaches in the *Journal*, so I thought my experience might be of interest to readers. I have but little wall space, or I should grow many more Peaches and Nectarines in the open air. As regards varieties, Alexander always ripens in July on a south wall, but it is a somewhat shy cropper. The fruit, however, is of good flavour and excellent colour. Hale's Early follows on an east wall. This variety ripens about middle of August. This is also sometimes a shy cropper, but to make up for it the fruit is large and beautifully coloured when the crop is thin. Dr. Hogg on a south wall comes in a few days later, and is, I think, by far the best outdoor Peach. It never fails to carry a heavy crop. It is a vigorous grower; the fruit is large and well coloured, and the flavour first class. I have it also on an east wall, where it is ten days later, and it does equally well there. Grosse Mignonne on a south wall comes in about beginning of September with medium-sized fruit of good flavour. It does not do well with me, being very weakly. Alexandra Noblesse, a pale fruit without any colour, on a south wall only ripens with me at end of September, and is a very shy cropper. In an unheated lean-to house this variety, however, crops better than outside, the fruit being large, pale, well flavoured, and of a beautiful appearance. Under a wall cover I have Sea Eagle, which does well, crops immensely, and is beautiful in appearance, but I do not think much of it as regards flavour. It ripens about end of September.—H. S. EASTY.

— **A LARGE PEAR.**—I was shown a very fine fruit of Pitmaston Duchess a short time ago at Barham Court by Mr. Woodward. It was weighed in my presence, and proved to be 1 lb. 11½ ozs. As it had been gathered for several days, I have no doubt it originally weighed 1½ lb. or more. I omitted to take the measurement of it, but it was certainly the finest Pear I ever saw grown out of doors in this country.—W. H. DIVERS, *Ketton Hall Gardens, Stamford.*

— **OLD READERS.**—In your report of the Royal Horticultural meeting last week my name is wrongly spelt as "Horley," gardener to W. E. Hall, Esq., instead of Kidley. Although I may be unknown to you your paper is very well known to me. I have been a reader since 1871, and I am going in for the first pension that you give away for old readers.—SAMUEL KIDLEY, *Yeovil.* [We suspect if a pension were offered to the oldest reader many stronger claims would be "put in" than by our correspondent, but the longer he continues reading, which we hope will be many years, the stronger his claims will eventually become. We have pleasure in making the suggested correction.]

— **SURPLUS BEDDING PLANTS.**—It has been officially announced by the London County Council that the surplus bedding plants at the metropolitan parks and public gardens under their control will be ready for distribution on or about October 21st. Applications for the same should be made early to the superintendents of the respective parks. It is also stated that the Commissioners of Her Majesty's Works and Public Buildings intend to distribute, this autumn, among the working classes and poor of London, the surplus bedding plants used in Hyde and Regent's Parks, and in the pleasure gardens at Hampton Court.

— **THE CHISLEHURST GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.**—The members of the above Association held their second annual meeting on Tuesday, October 4th, a good number of members being present. The balance sheet for the year shows that the Association is in a most flourishing condition, although entirely supported by members' subscriptions. Officers for the ensuing year were elected, and various alterations of rules made. Several papers on gardening subjects were promised for the ensuing session. Meetings are held weekly on Tuesday evenings, from October to March inclusive.

— **MICHAELMAS DAISIES FOR BEDDING.**—I was glad to see the excellent suggestion thrown out by Mr. Dewar in his lecture on Michaelmas Daisies at the Drill Hall that these useful plants should be more frequently employed for bedding than is now the case. For several years one of Mr. Graham's most beautiful beds at Hampton Court was composed of Madame Desgranges Chrysanthemum surrounded by a broad band of Aster Amellus bessarabicus, and it may still be maintained, for I have not had an opportunity of judging personally during the past three years. But one thing is indispensable, the plants must be of such a character as to display a well-clothed base, for if they were of the description too often seen—namely, huge, top-heavy bushes with prominent brown stems, they would be unsightly rather than ornamental. The best way of getting plants well feathered with leafage is to raise them from cuttings, making use of the young shoots when they have pushed about 3 inches above the soil. These will give plants of a short-jointed, sturdy nature, whereas taller shoots would develop the same character as that just deprecated.—WANDERER.

— **A HEAVY CROP OF GRAPES.**—Those interested in the crops Vines are capable of carrying would, I am sure, be highly gratified if they paid a visit to the Sunny Hill Vineries, three miles from Derby, belonging to Messrs. Innes & Co. The Vines are only young, but I am assured on good authority that they have borne heavily from the first. This is almost proved by a visit, for a house of Vines two years old was carrying about eight fine bunches on each Vine. All the houses but one are span-roofed, about 85 feet long each and 22 feet wide, running north and south. The Vines are planted 2 feet apart, and are carrying twenty-one or twenty-two bunches each on an average. The houses are high, and the Grapes as thick as they can conveniently hang. The bunches are large, the berries very fair, and the Grapes had every appearance of colouring sufficiently well to find a ready sale in the market. With the exception of one house that is mixed with Alicante, Gros Colman is the variety grown. The lean-to house is filled with Muscat of Alexandria, the temporary Vines being Gros Colman; and here the crop, which was partly cut, was extremely heavy, yet the Muscats were good. Mr. Innes, unfortunately, was from home when I called, and not having made any notes, if I am wrong in any little particular I hope he will correct me.—WM. BARDNEY.

— THE LATE MR. C. H. SHARMAN (CARTER'S).—Had I been in London recently I might have been less surprised, as well as grieved, at seeing in your last issue the death of this much respected gentleman. Would you kindly allow a voice from Ireland to mingle with yours and that of the eminent firm (Carter's), that I am personally aware he so strenuously endeavoured to ever and always place first on the road to success? He was a man of wonderful business capacity. Whenever I went to London I generally called to see what new improvements—what additional achievements—had been added to the establishment in Holborn. I often waited in the office and casually observed him giving orders to two shorthand clerks at once while superintending some dozens of others, and ever and anon giving telephone orders all over London. If he had any quality more than another it was punctuality—a specific that I am not ashamed to confess both the writer and his countrymen might learn many things from our English friends. I once made an appointment with him to go down to Essex to see the seed farms, and was delayed five minutes at the Arundel. I met him on the steps, but only to receive a lecture on my want of punctuality. He was a whole-hearted servant of his firm, its wants and appliances, so none need be surprised at their regret of his premature demise. I am sure other voices will re-echo my regret to his bereaved family from the Green Isle.—W. J. MURPHY, *Clonmel*.

— SUMMER-PINCHING FRUIT TREES. — Mr. Davis, the able gardener at Manresa House, Roehampton, is so excellent a fruit grower that all his opinions are entitled to respect. This being so it may not be without interest to mention that he is not a believer in the summer pinching of fruit trees, and is able to lend emphasis to his opinions by pointing to trees laden with fruit, and with bold fruit buds showing for another year. In looking over the trees, however, the secret of their success and of the non-necessity of summer pruning is quickly apparent. The branches are trained so widely apart that air and light have the freest access to them. The growth is annually matured, and good crops follow. The free-fruited character of such trees is a natural check to exuberant growth, hence the necessity for summer pinching is obviated. Were trees to fall under Mr. Davis's care of which the main branches were closely packed together by earlier mismanagement, it is well within the bounds of possibility that he might find a system of summer pruning desirable if not absolutely necessary.

— PEACH SALWEY.—In the gardens at Manresa House, where fruit of all kinds, and particularly Vines, is so splendidly grown by Mr. Davis, a tree of this good Peach on a south wall is now carrying an excellent crop of very fine fruits. They will form a welcome supplement to the indoor crop.—P.

— POTATOES AT EARL'S COURT.—Owing to our having to go to press a few hours after the great Show of Potatoes and fruit at the International Horticultural Exhibition opened last week, we could hardly do justice to the magnificent display of tubers made by Messrs. Sutton & Sons, of Reading, and other exhibitors. The collection of Potatoes shown by Messrs. Sutton & Sons was, perhaps, one of the finest ever brought together. It consisted of close upon 4500 tubers in 222 varieties, the majority of the sorts having been introduced by the firm. The tubers were remarkably clean and bright, and of perfect symmetry, affording evidence of what can be done by judicious selection and careful cultivation. A large number of seedling Potatoes were also shown by Messrs. Sutton. Mr. R. Dean, Ealing, amongst others likewise staged a collection of Potatoes, for which a bronze medal was adjudged, a similar award going to Messrs. Harrison and Sons, Leicester, erroneously printed "Davidson & Sons" in our report last week.

— EVAPORATED FRUIT.—By no means the least interesting of the exhibits at the International Horticultural Exhibition last week was a case of evaporated and conserved fruit from Mr. Trotter, gardener to F. Ricardo, Esq., Bromesberrow Place, Ledbury. The specimens were displayed in small divisions, and looked tempting in the extreme. The dried fruit comprised whole, ring, and cored Apples; Green Gage, Victoria, Washington, and Orleans Plums, Apricots and Damsons. They had been treated with Mayfarth's evaporator, and judging by appearances were excellent. It would have been a wise step on Messrs. Mayfarth's part to have supplemented the exhibit with a few piles of the fruit ready for eating, at all events during the time the Show was reserved for the Judges and Press. In all probability there is a great future before fruit evaporating in this country. I have tasted delicious Apples evaporated a year before being eaten, and in winter they form a most wholesome and agreeable dish for those who have not the key of a big fruit

room in their pocket. Mr. Trotter's conserved fruit comprised Pears Plums (Washington and Victoria), and Apricots. These looked to be delicious sweetmeats; but the treatment with sugar, from which fruit should be kept free whenever possible, impairs their value for ordinary culinary purposes. Presumably, Mr. Ricardo is experimenting in fruit evaporation, and a record of the results secured would be most valuable. It will be a great gain if we can in a large measure substitute evaporated fruit for jam, which is generally less wholesome, while it lacks the full fruit flavour.—W. P. W.

— AUTUMN MAMMOTH CAULIFLOWER.—This is a product of that keen observation and selection which enterprising seed growers show in relation to vegetables in particular. It is evolved from out of the Autumn Giant, and has its special merits in being some three weeks earlier from identical sowings and plantings, and has finer and whiter heads than has that variety. I saw this growing in Messrs. Sutton & Sons' seed grounds at Reading several weeks since, when the earlier and finer character of the heads was most marked in what was a capital trial of the leading varieties. At the Earl's Court Show, where the Mammoth was found in splendid form in the leading competitive collections of vegetables, I invited the judgment of some of the leading growers, such as Messrs. Pope, Lye, and others, and they all agreed that the Mammoth was not only distinct from the Giant, but was an earlier and superior variety. Mr. Lye indeed said, "I can find no two better Cauliflowers in cultivation for summer and autumn use than are King of the Cauliflowers and the Autumn Mammoth."—A. D.

— GALTONIA CANDICANS.—Although this bulbous plant will not live through the winter in some soils out of doors, it possesses so much beauty and usefulness in the flower garden that any extra time and trouble spent are not wholly thrown away. Independently of its use in the herbaceous border this plant can be employed in a variety of ways in the flower beds, harmonising well with other things. A few years since, owing to the soil being heavy and wet during the winter, the bulbs decayed, failing to come up the following spring. My plan now is to take those up every year that are employed in the beds and put them into 5-inch pots. They are then started gradually into growth in a cold frame, and planted out afterwards where required. When new bulbs are required for the borders we pot them in the same way, and when they have made 6 inches of growth I dig out a hole in the border 18 inches deep and 1 foot wide, filling it entirely with prepared compost, such as refuse potting soil and leaf mould.—S.

— WOOLTON GARDENERS' MUTUAL IMPROVEMENT SOCIETY.—At the autumn conference of the Lancashire and Cheshire Association for the Extension of University Teaching held in the Temperance Institute, Southport, Prof. G. H. Rendall, Principal of University College, Liverpool, delivered an important address on "University Extension," and, in speaking of the necessity of continuity of teaching, referred to the Woolton Gardeners' Mutual Improvement Society in the following terms:—There (Woolton) the original demand was of an entirely spontaneous nature, and one that arose from a desire of the gardeners for more insight and intellectual knowledge of the subject of their actual life. The demand was, as he had said, spontaneous and in touch with life, and if a subject were in actual touch with life and experience it had a more permanent hold upon them than one which they might take up out of mere curiosity. This demand had developed into a course of extension lectures, thanks more especially to the two H. G.'s—Mr. Holbrook Gaskell and Mr. Harvey Gibson, who he was glad to see present; and then into a permanent Mutual Improvement Society, which had been in existence for some years. They had now their microscopic study, their fortnightly meetings, their report upon practical horticulture, which stimulated and raised the whole tone of gardening, and of the gardeners' interest in horticulture and botany. The University extension course, and that Mutual Improvement Society which had developed from it, had now become a personal and resident interest. The Society had been a courageous one, and had now, he was glad to see, disapproved of and declined to take a travelling library, preferring a permanent library of its own instead. An interesting discussion followed. On Thursday evening last the first of the winter meetings was held in the Parochial Hall, and took the form of a floral concert, the proceeds being in aid of the Gardeners' Benevolent Institution and the Gardeners' Orphan Fund. There was an excellent attendance, and a fair sum was realised. The Hon. Secretaries (Messrs. Disley and Waterman), and all those who so readily helped in many ways, are deserving of the highest possible praise.

CHRYSANTHEMUMS

CHRYSANTHEMUMS AT GORTMORE, DUNDRUM, CO. DUBLIN.

A VISIT to some of the growers of Chrysanthemums is quite as interesting in the month of December as when the plants are in full flower. This was the case with me when visiting Gortmore, the seat of J. G. Nutting, Esq., by seeing to what an extent of perfection the individual plants attain. The illustration (fig. 45) below, reproduced from a photograph, gives an idea of the plan adopted by the able gardener, Mr. E. Knowldin, for growing his Chrysanthemums for exhibition.

The border on which the plants stand faces south, and is over 100 feet long by 18 feet wide. It is covered with coal ashes, which are

MARKET CHRYSANTHEMUMS—EARLY FROSTS.

CHRYSANTHEMUMS for market are grown in such quantity that the question must often arise in the grower's mind whether the time devoted to their cultivation during the spring and summer could not be more profitably employed. To the fruit grower they are useful in many ways no doubt, chiefly as filling an awkward gap in the autumn and winter after the summer crops are over, and forming a source of income when his houses would perhaps be empty. They can be housed until their flowering season is over, too, without augmenting the bills for fuel very largely. But the markets are often glutted with them, and they are frequently sold very cheap, the percentage of profit being very low. It must not be forgotten that they require careful attention at a time when the work of the season is very pressing, and when the hands are needed badly in other ways.

But lately we had the question from another point of view for consideration. The winter quarters of our Chrysanthemums were occupied by Tomatoes, and our leading variety being a capital late setter the middle of September found us with a heavy crop of fruit, which we were unwilling to sacrifice in order to make room for Chrysanthemums. Stated briefly, it was a case of Tomatoes *versus*

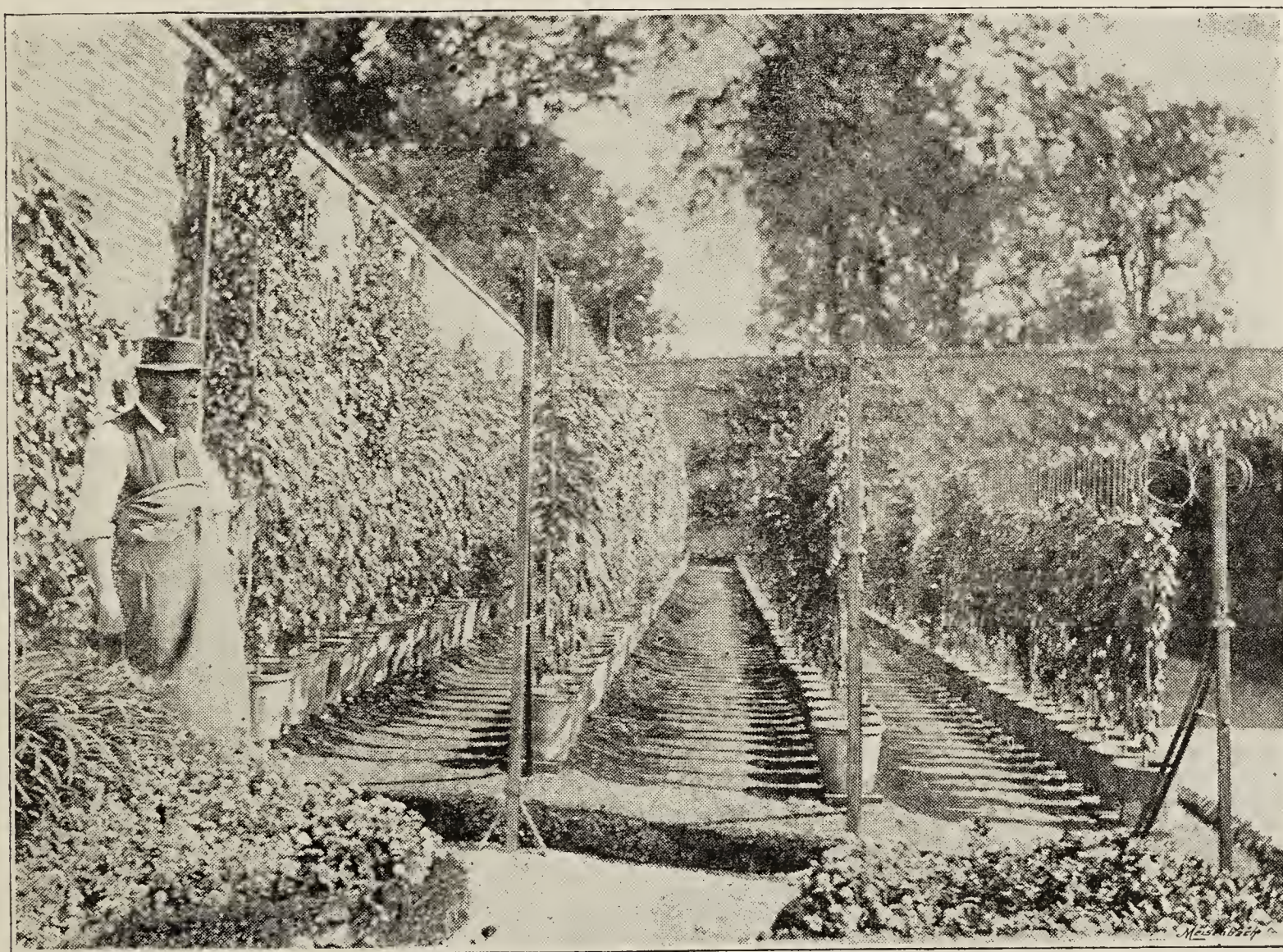


FIG. 45.—CHRYSANTHEMUMS AT GORTMORE.

made quite firm, and bricks placed for the pots to stand on. There are four rows of posts, with galvanised wire strained on each row; to these the green painted stakes are tied, and not thrust in the pots, as is usually done. There are seventy-five to eighty plants in each row, all of which are allowed to break naturally, and these are tied in a regular manner to the stakes, presenting to the eye an appearance of four symmetrical hedges. The varieties are so arranged that the plants in each row are nearly the same height, the tallest being about 8 feet high. It is gratifying to note the healthy, vigorous strength, and ripeness of wood, well covered with rich green foliage, and the very few buds lost through all the recent strong winds.

Chrysanthemums at the time of my visit were everywhere on the walks, and all looked exceedingly well. When once they all are housed the display will be very fine. Last year Mr. Nutting, with the aid of his energetic gardener, took all the leading prizes at the Dublin and provincial Shows.

There are many beauties about this lovely country seat worth noting, such as the grounds, which are well laid out and planted with fine Coniferae, and in the garden Roses are a speciality. In the houses are stove plants and Orchids, too numerous to mention.—J. W. HENDERSON.

Chrysanthemums. Somewhat unexpectedly the former won the day. Previous to the 17th of September the nights had been cold, but few expected frost of sufficient severity to injure Chrysanthemums. The sharp frost on the night of the 17th or morning of the 18th found us consequently completely off our guard. All through the Lea valley the weather was more or less severe, but many growers saved their plants from injury by laying them down and covering them with mats or straw. At several places 9° of frost were registered, a temperature, of course, low enough to fatally injure Chrysanthemums.

I must add that our Chrysanthemums are badly cut up. We had several thousands exposed, out of which we shall save very few, the buds on early and late varieties being alike irretrievably damaged. We shall probably get an inferior crop from the flowering shoots lower down the stem. Certainly we are not the only sufferers, as I am informed that one large grower has 40,000 plants all more or less injured. Doubtless many that think they have escaped will form a different opinion when the flowers expand. But one thing is evident, and that is that in this district preparations will have to be made for housing Chrysanthemums in future before September is very far advanced, which will shorten a season already sufficiently brief, and be the means of making Chryse-

anthemums even less profitable than they were. Covering the plants can only be practised to a limited extent, and where the planting out system is in vogue it is almost useless. It is singular to have to record that the variety least injured is the early flowering *La Triumphante*, the earliest variety we have; *Princess Teck* and other late sorts, with their buds scarcely formed, being hopelessly crippled.—ENFIELDIAN.

CHRYSANTHEMUMS AT CHILWELL.

THIS large collection occupies the same position as in former years, three of the largest houses being filled as before, but a fourth house has been brought into requisition for seedlings and untried novelties. There are several seedlings already open of great promise, while some of the novelties bid fair to produce grand blooms. The most noteworthy are John Farwell, Emily Doone, Mrs. Lay, Mrs. J. R. Baylis, Frank Thompson, and a number of Anemones not yet known to the public.

In the show house the plants are looking well, the buds plump, and the foliage excellent. They are somewhat dwarfier than usual. Amongst the varieties now opening I noticed Wm. Tricker, which bids fair to rival, if not eclipse, the charming *Vivian Morel*. It is a brighter and more pleasing form of pink, with much broader petals, the outside ones being half an inch in width. When the blooms are fully expanded they will be very little short of a foot in diameter. *Florence Davis*, Wm. Wells (the yellow sport from *Mdlle. B. Pigmy*), W. W. Coles, Stanstead White, *Vivian Morel*, W. H. Lincoln, Miss *Esmeralda*, *Bouquet des Dames*, Mrs. Nisbett, *Gorgeous*, *Coronet*, Louis *Boehmer*, *Mdlle. Marie Hoste*, *Marguerite Marrouch*, *Golden Dragon*, and *Boule d'Or*, are the most prominent of the Japanese. Amongst the incurved M. R. Bahuant stands out as boldly as Wm. Tricker does amongst Japs, with grand solid blooms. The Queen family look remarkably well, including Mrs. R. King, which has buds of immense size; also the *Princess of Wales* family are all that could be desired, *Ami Hoste*, *Madame F. Mistral*, and Robert Cannell are already showing colour. There will be a grand display by the opening of the exhibition, which takes place the first week in November.—AN OLD GROWER.

CHRYSANTHEMUMS ROUND LIVERPOOL.

ONCE again the season has come round for to record a few notes on this most popular flower. I know of no plant which has such a hold on public favour, and it cannot be wondered at, for amongst the family we have varieties from which anyone, from the humblest cottager to the highest in the land, may have a selection exactly to suit them. Around Liverpool I believe we have some of the most enthusiastic growers to be found, and although many labour under considerable difficulties still they all strive to attain the highest success, and they may fairly claim credit for records in the past, and have good hopes of the future. Conditions have not changed very much here. There is one familiar face we shall miss from amongst us—the late Mr. A. R. Cox. How well he used to grow Chrysanthemums everyone can testify, and his memory will be recalled to many of his old friends when the magnificent challenge vase, presented by Messrs. Ker & Sons, Aigburth Nursery, which he won last year, comes to be placed upon the table for others to take. How he would have delighted to have been in the fray, but it is not to be. I send you a few notes on Chrysanthemums, and hope to be able to complete my list of exhibitors in a future issue.

THE HOLLIES, WOOLTON.

Although Mr. Vaughan only made his *début* as an exhibitor last year he can lay claim to some prominence by reason of his successes at Sheffield. His Chrysanthemums this year are very good, dwarf, strong, well ripened, and timed, just the sort likely to produce good flowers. The Queen family are a little taller than usual, but excellent; and the Princess type, about 6 feet high, looks very promising. Others which ought to be grand are *Avalanche*, *Condor*, *Puritan*, *Stanstead White*, *Edwin Molyneux*, *Sunflower*, *Etoile de Lyon*, *John Salter* (very fine), whilst of the newer ones are *Edwin Becket*, 3 feet high, very promising, *Vivian Morel*, 4 feet high, *Alberic Lunden*, *Florence Davis*, 5 feet, just showing colour. Mr. Vaughan thinks Robert Cannell will do better on the terminal bud, as it comes too early on the crown, and of a very poor colour. About 250 plants are grown.

AYMESTRY COURT.

In Mr. Osborne, the gardener, we have an unassuming exhibitor, but one who has had much success, and who grows his 250 plants in a thorough manner. This season they are taller and stronger than last year, and very well ripened considering the season—an even lot and well timed. The Queen and Princess family are in grand condition, and ought to produce some noble blooms. If the plants are strong Robert Cannell and *Vivian Morel* both do best on the terminal bud, and Mons. R. Bahuant seemed to be just right on the same bud, coming altogether too early on the crown. *Jeanne d'Arc* is splendid. Of newer varieties the following were promising well.—Mr. and Mrs. Beckett, about 3 feet high; *Mdlle. Marie Hoste*, *Florence Davis*, and *Alberic Lunden*, 5 feet; Mr. J. Stanborough Dibbin, good habit, after style of *Avalanche*; *Violet Rose*, Louis *Boehmer*, *Lilian B. Bird*, *Gloire de Rocher*, *Beauty of Castlewood*, very good; and Noel Pragnell, the new striped Queen, looks well.

ELM HALL, WAVERTREE.

As successor to the late Mr. A. R. Cox Mr. J. Bracegirdle has had to follow a good man, but there is no fear of his not succeeding. He is persevering, and his training will stand him in good stead. He has this season 400 plants, which are throughout very promising, strong, well

ripened, and carrying well-formed buds. Amongst the newer Japanese which appear very fine are Mr. and Mrs. Beckett, Mr. A. H. Neve, *Vivian Morel*, *Gloire du Rocher*, Louis *Boehmer*, *Lilian B. Bird*, and *Mdlle. Marie Hoste*. Of the newer incurved which are very strong are May Tomlin, Mrs. Robinson King, Noel Pragnell, Robert Cannell, and Mons. R. Bahuant.

CLEVELEY, ALLERTON.

Although not an exhibitor, Mr. Cromwell is deserving of a place in this list. Those who have seen the long corridor filled with 600 plants, all of splendid quality, must admit that they have had a decided treat. At the present time *Bouquet de Dame* and Mons. Wm. Holmes are playing an important part in the decoration of the corridor. In the Japanese, the following are especially noticeable: *Sunflower*, very good; W. H. Lincoln, *Madame Laing*, Sarah Owen, *Condor*, A. H. Neve, W. W. Coles, *Gloire du Rocher*, grand; *Etoile de Lyon*, *Boule d'Or*, Mons. Bernard, and *Puritan*; whilst the newer are represented by *Florence Davis*, *Vivian Morel*, *Mdlle. Marie Hoste*, and *Lilian B. Bird*, all very fine. Of new varieties, Mr. and Mrs. Beckett appear to be here, as everywhere else, of good habit, and with buds of a promising character; W. Tricker is very dwarf, good foliage, and, to all appearance, will come out very fine; Louis *Boehmer* and W. A. Manda are showing good buds, but they require to be taken very early. The Queen family are fairly represented, and the Princess type especially good. Mrs. Robinson King gives every promise of being good flowers.

THINGWALL HALL, BROADGREEN.

Winning his laurels in the early days of Chrysanthemum growing, Mr. R. Foster is yet as enthusiastic as ever, and does not by any means intend to let younger growers have all their own way, judging from the fine plants which he has grown this season. Some varieties are early, but the majority are rather late, especially the Princess family. The incurved varieties other than the above look fairly well. The following are good, and look as if they will develop into good blooms: Mr. E. Beckett, W. R. Woodcock, Miss L. Cope, *Gloire du Rocher*, *Vivian Morel*, and W. Tricker.—R. P. R.

ALLERTON BEECHES.

Though rather early to form a definite opinion, still the plants promise to give a good return, especially the newer varieties. Mr. Edwards has all the latest novelties, the following having very promising buds:—Japanese: Colonel B. Smith, R. C. Kingston, W. Tricker, Mrs. E. D. Adams, *Beauty of Castlewood*, W. K. Woodcock, Mr. and Mrs. E. Beckett, *Excellent*, E. G. Hill, *Violet Rose*, Miss Lillie Measures, Mrs. George Daniels, Mrs. E. W. Clarke, *Le Verseux* (a splendid grower), H. Ballantine, and W. A. Manda. In incurved, Mrs. Robinson King, Richard Parker, May Tomlin, *Mdlle. Marie Hoste*, *Madame Gayral*, *Madame Darrier*, *Flora Macdonald*, *Sabine Mea*, and *Princess Waldemar*, the Princess and Queen types are all represented by excellent plants. Mr. Edwards has been a successful exhibitor in time past, and he is deserving of continued success.

HANLEY CHRYSANTHEMUM SOCIETY.

THE Borough of Hanley Chrysanthemum Society's tenth annual Exhibition will be held in the Victoria Hall, Hanley, on Wednesday and Thursday, November 16th and 17th. A liberal schedule has been prepared, there being numerous open and amateur classes. Notwithstanding a loss on the Show last year, the prizes have this season been slightly increased for the purpose of introducing a new feature—namely, small groups of flowers and foliage plants suitable for table decoration.

ROYAL HORTICULTURAL SOCIETY.

OCTOBER 4TH.

SCIENTIFIC COMMITTEE.—Present: Dr. M. T. Masters (in the chair); Mr. Morris, Mr. McLachlan, Mr. Blandford, Dr. Müller, Rev. W. Wilks, Dr. Scott, Dr. Bonavia, Professor Church, Rev. G. Henslow, Hon. Sec.

Bouillie bordelaise.—With reference to this preparation Mr. Morris stated that it had been thought advisable by some persons to water the soil with it, and M. Cornu, as recorded in his letter read at the last meeting, appeared to favour this view. It was, however, the general opinion of the members present that this procedure would undoubtedly sterilise the soil, and so prove highly injurious by arresting nitrification. Some further discussion arose with reference to the best manner of knowing when the bouillie was in a proper state for application, as several failures in its use had resulted from the copper salt being still present in the solution. Dr. Russell, as recorded at the last meeting, appeared to rely upon the absence of a blue colour when 2 or 3 inches in depth of the clear fluid was looked through; another suggestion, made by Dr. Müller, being the application of a small quantity of liquid ammonia. If there be any copper present the bouillie would become blue. Professor Church remarked that although all the sulphate of copper might be changed into the hydrated oxide, yet if any small quantity of the latter be left suspended in the liquid, and not entirely precipitated, the blue colour would still appear on the addition of ammonia. The simplest and most efficacious test would be to place a piece of clean iron (e.g., a knife blade free from grease) into the solution for about five minutes; then, if no film of copper were deposited on the iron it might be concluded that the mixture was in a proper condition for use. It was further added by Dr. Müller that great care is required in using the lime, as, if it were not most thoroughly pulverised

in water, portions would not come into action at all. The lime, too, must be of the best quality, and not from a quantity which had been kept for any time exposed to the air.

Prevention of Smoke and Fogs.—Mr. Michael forwarded the following report upon Col. Dulier's process for the prevention of smoke and fogs:—

"As requested by the Committee I have inspected Col. Dulier's apparatus at No. 51, Sloane Gardens. The process is especially applicable to domestic fires, including those of the ordinary English type. Shortly stated the process is as follows—viz., Steam (not under pressure) is generated in a small special boiler behind the kitchen range, and is allowed to mix with the smoke in the flue; it may be introduced either at the top or the bottom of the flue. The mixed smoke and steam does not pass through a chimney pot into the open air in the usual way, but is conducted into a condenser on the roof of the house, which receives all the flues of the house. In this condenser the steam is condensed, and falls into very fine rain, thus washing the smoke and carrying down carbon, sulphurous acid, &c., the whole being carried off by a drain. It is claimed that the condensed steam carries down practically the whole of the free carbon, and also a third to a half of the sulphurous acid when the air temperature in the open is 50° Fahr. or above, and more than a half when the temperature is lower. It does not appear that any experiments have yet been made to ascertain what proportions of the other residual products of coal combustion are carried down. The process appears to me to be simple, automatic, and well worthy of further investigation and encouragement. A wet rag placed over the discharge aperture of the condenser, where the hot air and gases escape, is not blackened and does not collect soot, and the face may be held over the same aperture without any particular inconvenience being experienced. It is further claimed that the apparatus prevents the possibility of a down draught in the chimney, and also effects a considerable saving in fuel. The present apparatus at 51, Sloane Gardens, has been erected for the purpose of experiment and demonstration only, and would, I fear, be much too costly to be enforced for general use in small houses; but it is the first made, and could probably be greatly simplified and reduced in cost. Col. Dulier would be happy to exhibit the apparatus to the Fog Sub-committee on their applying to him at 27, Sloane Gardens. The apparatus used by the chemists who tested the absorption of sulphurous acid, &c., is still in No. 51, Sloane Gardens, and Col. Dulier would place it at the service of any chemist connected with this Society who might be inclined to make further investigations."

The thanks of the Committee were given to Mr. Michael for his report.

White Ants from La Rochelle.—Mr. McLachlan exhibited specimens of the *Termes lucifugus* received from La Rochelle, the injuries caused by them having been described at a previous meeting. They are small, being about half an inch long, and in the larval condition.

Artichoke Gall.—He also exhibited a specimen of a gall, probably produced by some species of cynips.

Cladosporium on Wheat.—Mr. Plowright sent specimens showing this disease, with the following communication:—"During the last season this disease has been exceedingly common in the Wheat in various parts of England. No district has probably suffered more from it than the eastern counties. It is often present with us, but I have never seen it so abundant as this year. Whole fields were blackened by it, and many persons mistook it for Wheat mildew, with which, of course, it has no affinity. Until recently the *Cladosporium* was regarded as a saprophyte, but recent investigations show me that it can also exist as a true parasite. During the harvest the difference between Wheat mildew and the *Cladosporium* disease is very apparent, for where the last-named is present to any extent the reaping machine is surrounded by a cloud of dust. There is nothing to prevent both fungi occurring in a Wheat crop simultaneously, but, of course, the mildew is not dusty. Prof. Eriksson, of Stockholm, a few years ago called attention to the prevalence of *Cladosporium* on Rye in Norway and Sweden, and pointed out that it all occurred on the grain, and further, that when the diseased Rye was consumed it gave rise to a series of symptoms, among which were diarrhoea, vomiting, and especially derangement of nerve centres, producing dizziness and a staggering gait, like that of a drunken man. The grain of Rye being less covered by the chaff is more liable to have the fungus upon it than is the case with the Wheat. Prof. Woronin last year was called upon by the Russian Government to investigate a series of cases in which the above-named symptoms were produced by its consumption. He came to the conclusion, however, that the poisonous properties were induced rather by *Fusarium roseum* than by the *Cladosporium*, although the latter was very abundant on the affected grains. As will be seen from the specimens sent, the *Cladosporium* is especially abundant on the chaff. Such a development of parasitic life cannot but be detrimental to the Wheat affected by it, and it is probable that the *Cladosporium* has much to do with the poor yield so many agriculturists complain of this year. This is a subject into which the Agricultural Department should inquire into at once."

Cronartium ribicola.—Mr. Plowright also sent specimens of *Pinus Strobus* attacked by the æcidiform stage of this fungus, with the following communication:—"At a recent meeting of the Scientific Committee specimens of this fungus on Currant leaves were exhibited, gathered in the garden of Mr. C. G. Boyes, Oakwood House, Setch, near King's Lynn. On the 13th of August I again visited the garden and examined the Pines, in order to find if possible the branches affected by the *Peridermium*. This I was successful in doing, and herewith send one of

the affected branches. It will be seen that the mycelium of the *Peridermium* has caused hypertrophy of the affected branch. The peripheral extremity bears a sickly tuft of foliage, but the branch itself is evidently dying, although at its base it shows the enlargement due to the mycelium extending downwards. There are two trees affected about 15 yards from the Currant bushes. I have also observed the *Cronartium* on Currants in the garden at Middleton Rectory." A vote of thanks was given to Mr. Plowright for his interesting communication.

Green-fruited Elder.—Mr. Henslow exhibited sprays of this rare form of the common Elder from a tree in his garden at Ealing. The foliage differs from the common form in being darker in colour, the two halves of a leaflet approximating each other as in the Portugal Laurel, the marginal teeth being curved forwards, whereas in the common form the leaf is paler green, the leaflets are flat, and the teeth straighter. The berries of the green variety are globular with ten veins, resembling Currants, the ordinary form being oblong and black. The taste is the same in both.



ROSES UNDER GLASS.

WHERE planting is anticipated no better time could be selected than the present. Plants that have been grown in pots travel well at this season without injury or the fear of any permanent check. Having the whole of their foliage upon them, and their roots in an active condition, Roses are not long under greenhouse treatment before they become well established in the new soil, in fact sufficient to insure a vigorous growth next season.

There will be no comparison between the growth of plants planted now and those that are planted two months hence. All the attention needed will be syringing the plants occasionally after planting, and being careful not to overwater them. This is important; if the soil is made wet about them, they may fail to root into it, and start badly into growth in spring. If the soil at planting time is in an intermediate state for moisture very little, if any, water at their roots will be needed before the early months of the year, except that which they receive by syringing. As far as possible we avoid watering, and in order to do so slightly mulch the border.

In the past we have found Tea and Noisette kinds stand the winter well when planted out of pots at this season of the year, and generally do well afterwards.—W. B.

H.P. MARCHIONESS OF LONDONDERRY.

BY an odd coincidence, at the time my friend Mr. Bateman was writing to you on the subject of Messrs. Dickson's new Rose Marchioness of Londonderry, I had addressed a note to one of your contemporaries in which I described this Rose in exactly identical terms—i.e., as like a Magnolia. It is the type which strikes you at once when you see the bloom in its full development. The scent is also most uncommon. Altogether it seems to me a grand Rose.

ROSE ANALYSIS.

Your leader, signed by my friend, "E. M.," on the Rose analysis, is most interesting, and in many ways instructive. "E. M.'s" remarks are always so carefully weighed and correct that I am pleased to note the opening sentence of his first paragraph, which is in striking contrast to the inaccuracies of a writer in one of your contemporaries on a somewhat similar topic.

"E. M." emphasises my statement that the National Society's Show in July was "the most extensive ever held." I am only sorry he did not further support his remark by figures, and thereby demolish other erroneous statements which have been recently circulated.

Your correspondent proceeds then to explain the anomaly of his figures of the leading Roses being smaller than of late years by the fact of the Society having had for prudential reasons to withhold fourth prizes this year. Now what this involves is that out of some fifty-six classes (I do not count the entire sixty, as they were not all for exhibition varieties) with exhibits of from seventy-two down to six Roses, the names of what would have existed as fourth prizes, and have been taken into account in other years are now omitted, this involving the names of about 1000 Roses! I can make out the exact number easily, as you have only to count the exhibits requisite for each class and multiply by the number of classes.

I note amongst other details that "E. M." agrees with me in looking on Mrs. W. J. Grant as an improved Jeannie Dickson, but Messrs. Dickson tell me that as grown by them at Newtownards there is little similarity. I am satisfied to accept Messrs. Dickson's opinion, as they are such first-class authorities and rosarians that they are not likely to err, and, moreover, are superior to prejudice; but for our satisfaction, as rosarians in England, it would have been desirable to show these two fine Roses as grown by them and in juxtaposition next year. Whether this is feasible, now that the stock of Mrs. W. J. Grant is sold, is a question I am unable to solve, as I am not acquainted with the etiquette in such matters.

I am surprised that Madame Hoste does not figure better this year, as with me it has been superb. Allow me to make one suggestion in closing this letter, and that is in advising your readers to add to the exceedingly good list of "E. M." the following Roses:—Teas: Madame Cusin, Cleopatra, and Madame de Watteville, and to H.P.'s Margaret Dickson, Comte Raimbaud, and Horace Vernet.—CHARLES T. GRAHAM.

P.S.—I have carefully gone over the figures, and eliminating all cases where less than four were shown in any class, I find that if four prizes had been given at the N.R.S. C.P. meeting the figures would have been increased by 710, and not "about 1000," as I said at a guess, but this would bring Mr. Mawley's figures up to 2385, by far the highest ever shown, and proving what a success the Show was.—C. T. GRAHAM.

HYBRID PERPETUALS IN POTS.

It is impossible to have these in the most satisfactory state if the plants are potted late in the season and then forced the following spring. They should be lifted and potted while their foliage is perfectly fresh. If the plants are obtained from a distance strict injunctions should be given so that the roots are not dried either before or during transit. This is important. Directly they arrive soft ends or long shoots may be reduced and the plants placed at once into clean well drained 7-inch pots. The compost may consist of good fibry loam, not too light nor too heavy. If the latter, coarse sand should be added; if the former, clay may be dried, reduced to a powder, and incorporated with the loam. One-seventh of decayed manure may be added, one 6-inch potful of soot, and the same quantity of bonemeal to each barrowful of loam. The compost must neither be too wet nor too dry, and should be pressed firmly into the pots.

The plants should not be stood outside, where the soil is exposed to the drying influences of the weather, necessitating frequent waterings. They do not succeed under this system. The pots should be plunged at once in ashes, covering the surface, and then no water will be needed. The only attention required is to syringe them during dry weather, to keep the foliage fresh. This will induce the formation of roots, which will extend rapidly. Soil that can be kept moderately moist is in the best possible condition to favour root development. Before it is necessary to place the plants in frames for the winter they will have made abundance of roots. The growths can be partially shortened back for convenience. It is a good plan to plunge the pots in the frames for the winter; during this period they should enjoy abundance of air when the weather is favourable.

If frames can be devoted to these plants in spring, pruning may be done in February, the growths being well cut back. Pruning should be left until the end of March if the plants are plunged outside. The former is the best method to prepare the plants for forcing. This is not all, for if the blooms are really required, under cold frame treatment they will come into flower before outside plants. The growth will also be made and ripened earlier, which is an advantage where they are required for forcing early in the following season.

Where Roses are kept in pots year after year for forcing they ought to be shifted periodically until they are established in 10-inch pots, and afterwards the soil should be partially reduced annually during the months of July or August, while they are outside.—B. O. M.

INTERNATIONAL HORTICULTURAL EXHIBITION.

IN our last issue we made a brief reference to the awards given to season exhibitors at the International Horticultural Exhibition. Some of the exhibits, however, are worthy of more than a passing notice, and therefore further allusion to a few of the most noteworthy may be made with advantage. It might also be mentioned that the Exhibition closes on Saturday, October 15th, and those who have not visited it yet should do so at the earliest opportunity. The names of some of the principal season exhibitors are embodied in the following notes.

GLASS STRUCTURES AND HEATING APPARATUS.

These are well represented. Among the numerous glass structures that have been on view for some months past, the splendid exhibit sent by Messrs. W. Richardson & Co., of Darlington, stands out conspicuously. A gold medal has been awarded this contribution, which includes a well-built conservatory and garden frames of various forms. The three-quarter span-roofed frames are useful structures for growing plants, and should be extensively used in all gardens. For amateurs the "Cottage" plant frame is a handy little structure, deserving of more than a passing notice. Near by, and of no less importance, are the structures erected and shown by Messrs. Crompton & Fawkes of Chelmsford, for which a silver medal has been adjudged. This firm also shows an elaborately built conservatory, the roof bars of which are made with their improved drip grooves. Frames of various kinds, useful and handy, are likewise exhibited by Messrs. Crompton & Fawkes. Messrs. Mackenzie & Moncur, Edinburgh, were awarded a silver-gilt medal for a specimen conservatory; and Messrs. C. Toope & Son, Stepney Square, E., show a model greenhouse, fitted with Toope's patent fog annihilator. Other firms also exhibit glass structures, including greenhouses, conservatories, vineries, and frames.

Of heating appliances these are numerous, and of every conceivable size and shape. The Thames Bank Iron Company, Upper Ground Street, Blackfriars, secure a gold medal for a magnificent display of boilers. The welded improved Trentham, new patent horizontal tubular, and the champion horizontal are powerful boilers, capable of heating an

immense structure or long ranges. The last named boiler is specially designed to meet the requirements of large growers, and by a simple arrangement of the flue plates nearly the whole surface of the boiler is exposed to the fire, thus increasing the heating power. Smaller apparatus suitable for amateurs' greenhouses, also for heating rooms, halls, and churches, are also shown by this firm, as likewise are a large number of hot-water pipes and various fittings. The patent reliance rotary valve, which is simple in construction, and not liable to get out of order, is conspicuous among the numerous other fittings. Messrs. Crompton & Fawkes show Fawkes' slow combustion apparatus, which is a tenant's fixture, and can be easily erected, while Messrs. Richardson and Co. secure a silver medal for heating appliances, which include Richardson's patent hooded tubular boiler in various sizes.

LAWN MOWERS AND WATER APPLIANCES.

Turning to lawn mowers one cannot fail to notice the magnificent stand exhibited by Messrs. Ransomes, Sims & Jefferies, Limited, of the Orwell Works, Ipswich. Here we have machines of all sizes and elegant appearance, fitted with all the latest improvements, including Ransome's patent single screw adjustment of the cutting cylinder. This the firm claims to be the best and most simple form of cylinder adjustment ever invented, for which a certificate has been awarded. Horse and pony machines are included in this stand, as also are hand machines in many sizes. The Anglo-Paris is one of the latest introductions of the firm, and this is a beautifully finished, easy working little machine. A gold medal has been awarded Messrs. Ransomes, Sims & Jefferies for their splendid contribution. In close proximity to the last mentioned stand Messrs. A. Shanks & Son of Arbroath and London make a good display of lawn mowers, gaining a silver medal. This stand also includes lawn mowers of all sizes, from 10 inches in width to the splendid 48-inch horse machine. These are likewise simple in construction and of excellent appearance, embodying all the modern improvements, which enable them to perform the work in a most efficient manner. The new light lawn mower is one of the firm's latest introductions, and this can be had in various sizes from 10 to 14 inches in width. This is a light machine and can be used for all kinds of work.

Regarding the display of garden hoses, pumps, and water appliances, that of Messrs. Merryweather & Co., Greenwich, has attracted some considerable attention, and for which a gold medal has been awarded. Here are hoses of the best make, and suitable for gardens of all sizes. The garden engines and syringes also make a good display, the former being handy and of elegant appearance. The Sphincter Grip Armour Hose Co., 9, Moorfields, London, E.C., also showed innumerable coils of garden hose in various sizes, syringes, pumps, and spray distributors. A bronze medal has been awarded this firm; and a silver medal goes to Messrs. Joseph Davis & Company, London, for rain and snow gauge, and certificates for thermometers and barometers. Messrs. J. H. Heathman and Company, Endell Street, W.C., have secured a silver medal for hoses, syringes, and their noted telescopic extension ladders. The latter are invaluable in the garden and for using in lofty conservatories and other structures, as well as for home use. These are now, we believe, being used in the Royal Gardens at Frogmore. Messrs. Shand, Mason & Co., London, also made a display of garden hoses and pumps, for which a silver medal has been awarded.

MANURES AND INSECTICIDES.

These are also extensively and well shown. Messrs. Corry & Co., London, secured a bronze medal for an effective stand of artificial manures, insecticides, and various sundries. A similar award goes to Mr. J. Bentley, Barrow-on-Humber, for weed destroyers and insecticides, and a certificate of merit for a paraffin oil insecticide. Messrs. Clibran and Sons, Altrincham, have been awarded a bronze medal for a stand of insecticides, amongst which the Eucharis mite killer and Campbell's fumigating insecticide figure conspicuously. Certificates also go to Messrs. W. Richardson & Co., G. Shearod & Co., J. Pinches & Co., and B. S. Williams & Son for exhibits in this department. Messrs. W. Wood & Sons, Wood Green, N., show an enormous quantity of insecticides, manures, peat, and other garden sundries, securing a bronze medal thereby and several certificates. The "Stott" Fertiliser and Insecticide Distribution Company also gain certificates for their specialities, and the same applies to the Horticultural Supply Company, London, who show various sundries. Mr. W. Colechester, Ipswich, likewise shows samples of Ichthemie guano and other manures, for which a certificate has been awarded.

POTTERY AND MISCELLANEOUS.

Messrs. R. Sankey & Co. have staged a characteristic display of garden pottery, and gain a silver medal. Fancy pots of various makes for hanging on walls are included in this exhibit, as also are Orchid pans, pots, and baskets. Messrs. W. S. Iles & Co., Camberwell, S.E., also show a large quantity of garden pottery, from the most miniature to the largest size. Rustic pots and pans are a feature here, these being effective, and useful for the culture of Ferns or Orchids. A gold medal goes to Messrs. F. Rosher & Co., Upper Ground Street, E.C., for a splendid display of beautiful statuary and balustrading. The Australian Irrigation Colonies, London, gain a silver medal, a design for the general improvement of grounds, and show boxes of Apricots and raisins, the first importation of such fruits from Australia. Messrs. Ph. Mayfarth and Co., 16, Mineing Lane, E.C., and Frankfort, have gained a silver medal for methods of irrigation, and they also make, as already reported in these pages, a speciality of fruit evaporators. Messrs. B. S. Williams and Son, Upper Holloway, have been awarded a gold medal for

sundries. Messrs. Reid & Bornemann, Sydenham, gain a silver medal for a design for laying out a typical estate of 100 acres; and Messrs. L. Farina & Co., London, and Madame Gofton, Norwood, similar awards for bouquet papers and miscellaneous decorative requisites.

It may be mentioned that the judges at the Fruit and Potato Show last week reconsidered their decision, and awarded Messrs. E. D. Shuttleworth & Co., Peckham Rye, a gold medal for a group of Palms instead of a silver-gilt one, as reported last week.

THE UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.

THE sixth anniversary dinner of the United Horticultural Benefit and Provident Society was held at the Cannon Street Hotel, London, E.C., on Wednesday, October 5th. Mr. J. Fraser of Lea Bridge occupied the chair, and he was supported by a large number of well-known horticulturists. Amongst others present we noticed the Rev. W. Wilks, Messrs. H. J. Veitch, N. Sherwood, — Fisher (Fisher, Son & Sibray), J. Cheal, N. Cole, G. Ingram (Gardeners' Royal Benevolent Institution), W. Marshall, J. Laing, J. Hudson, H. Cutbush, D. Dewar, C. W. Cummins, H. Herbst, and W. Collins (Secretary).

After the customary loyal toasts the Chairman proposed "The United Horticultural Benefit and Provident Society." In doing so he gave a review of the institution, remarking that twenty-seven years ago himself, Mr. W. Marshall, and another friend met at the Green Dragon hostelry in Bishopgate Street, to promote the Society. In the early days of its existence, however, it was attended with great difficulties. He was treasurer at the time, and the bank in which the money was invested failed. Thanks, however, to the efforts of a hard-working Committee, the Society gradually rose from obscurity, and was at the present time one of the most flourishing institutions in the country. Ten or twelve years ago they had less than £1000, but now he was proud to announce that between upwards of £7000 and £8000 were invested. Mr. Fraser made a strong appeal on behalf of the Society. He eulogised the Gardeners' Orphan Fund, remarking that by subscribing to it gardeners were laying by a provision for their children, but in doing so they must not forget to provide for themselves. Sick, he said, came, and would come upon all, and it was most important that gardeners should make provision for themselves in that respect. Mr. G. Baker in responding, said it was necessary for gardeners to have a benefit society. He was one of the original promoters, and the Society was founded for the benefit of young men. He hoped that all head gardeners would point out to young men employed under them the advantages of this institution, and induce them to become members. Mr. Hudson, who also responded, likewise pointed out the advantages gained by becoming members of such a benefit Society.

Mr. Nathan Cole gave "The Life and Honorary Members," coupling with it the name of N. Sherwood, Esq., a "life member," and the founder of the convalescent fund, a recent important addition to the institution. Mr. Sherwood responded, and on rising was received with much enthusiasm. It had always, he said, given him the greatest pleasure to be present at the annual dinner, and he considered it a duty to offer his small mite. The great institution—for such the United Horticultural Benefit and Provident Society was—was teaching gardeners the noble virtue of thrift. It was a gardener's duty to put by for a rainy day. As regards the convalescent fund, he thought every gardener might with advantage bring the matter before his employer. Gardeners required convalescence as much as, and perhaps more, than anyone else, and if the employers had the subject pointed out to them he had no doubt they would willingly give their assistance. It had occurred to him that a few friends present might assist, and on making an appeal to them they had liberally responded. The result, he was glad to announce, was that nearly £30 had been subscribed in a few moments.

The Chairman proposed "Kindred Societies," with which the names of Mr. W. Marshall and Mr. G. Ingram were coupled. The first named gentleman, representing the Gardeners' Orphan Fund, said there need not be any clashing between the kindred societies, inasmuch as each had its own office to fill. Mr. Ingram acknowledged the usefulness of the United Horticultural Benefit and Provident Society, and made an appeal for the Gardeners' Royal Benevolent Institution.

"The Treasurer" was the next toast given by the Chairman. At this point the most pleasing incident of the evening occurred—namely, the presentation of a handsome gold watch, accompanied by an illuminated testimonial, to Mr. J. Hudson, the Treasurer. In making the presentation, Mr. Fraser said that, to a great extent, the success of the Society was due to the exceptional abilities of Mr. Hudson. The latter gentleman, who was enthusiastically cheered, in replying, said he could not express his gratitude for the honour the members of the Society had paid him in making the presentation. He had only done his duty. All the officers of the Society had worked hard; they could not afford to have drones in the hive. He had always taken a pleasure in inducing gentlemen to become honorary members, and he hoped to be spared for many years to help forward the Society.

Mr. H. J. Veitch gave "The Officers of the Society," and said all young gardeners should take an example from Mr. Hudson, whom he had known for many years. Messrs. J. Wheeler, N. Cole, and W. Collins, whose names were coupled with the toast, responded in suitable terms.

Mr. W. Marshall proposed "The Chairman," to which Mr. J. Fraser briefly responded, remarking that he was thoroughly convinced of the usefulness of the Society. Mr. J. Cheal gave "The Visitors," and Mr.

Fisher responded. Mr. H. Cutbush, Highgate, proposed "The Press," to which Mr. B. Wynne made a brief response.

The tables were tastefully decorated by Mr. J. Chard in his characteristic manner, and an excellent musical entertainment having been provided, a most enjoyable evening was spent.

AGAPETES BUXIFOLIA.

WHEN seen at its best *Agapetes buxifolia* (fig. 46) is a beautiful plant, and it is surprising that it is not more generally known. It is a relative of *Vacciniums*, and under good management will produce immense quantities of rich scarlet tubular flowers, which are very attractive. Its culture is not difficult, though, like the *Erica* family, it requires careful attention. A compost of good peat, a little turfy loam, and sand suits it admirably if the pots are thoroughly drained. Watering must be carefully performed, never allowing the soil to become too



FIG. 46.—AGAPETES BUXIFOLIA.

dry, or, on the other hand, excessively saturated, either being fatal to the plant. Having a tendency to grow somewhat straggling, a little pruning is sometimes necessary to keep the plant in shape.

GRAPE VINES AND THEIR CULTIVATION.

[An essay read at a meeting of the Devon and Exeter Gardeners' Association on the 5th of October, 1892, by Mr. McCORMICK.]

THE Vine is a remarkably free growing plant, and is found in a state of great luxuriance under many opposite conditions, and in soils of a widely different character. The soil which I consider best suited for it is a fibry yellow loam, neither too light and sandy nor too heavy and adhesive. Vines never succeed in wet, clayey, tenacious soil, a certain amount of aëration and porosity appearing to be an absolute necessity, with abundance of water at certain seasons. The turf should be cut from an open pasture, not from a wood or near the roots of trees, lest pieces of wood or of roots remain to decay and cause fungus. It should also be cut while it is dry. Many soils are quite spoiled by being handled whilst in a wet condition. Some cultivators make the borders in layers, first a layer of turf, then so much lime rubbish, or whatever is being added to the soil. Whether this is the right or the wrong practice I will not attempt to say. I advise chopping the turf

with the grass and fibre roughly to pieces, and to 5 or 6 cubic yards of this add 1 yard of old lime rubbish or broken bricks, a portion of charcoal, wood ashes or burnt soil; these well mixed will constitute the main body of the border, but are subject to considerable modification as to proportions according to the quality of the loam. If this be of a sandy nature less of the lime rubbish must be used, as the object in employing it is to give porosity to the soil. If, on the other hand, it is of a clayey nature a greater portion of lime rubbish will be required.

In many places it may be very difficult to obtain soil at all approaching that which I have recommended, but let no one despair of growing Grapes on that account. Vines will grow well in soils of a much inferior nature under careful management. I recommend that which I have found to be the best, and I always try to get it as near as possible. If inferior soil is used in the formation of the border extra top-dressing will make up for the deficiencies, but I have always found the best results in every respect when the other ingredients mentioned are added in their proper proportions for the production of Grapes and the general constitution of the Vine.

MANURES.

For the growth of the Vine nearly all soils require the addition of some fertilising agent. Not very many years ago it was a popular plan to bury the carcasses of animals such as horses, cows, &c., in the borders, under the mistaken impression that the roots revelled in such putrid matter. A more erroneous idea never existed. At the present time very different notions prevail in regard to manures, and also the making of Vine borders. Some of the best cultivators now have their soils analysed with great care, and different ingredients in which they may be found deficient added with mathematical precision. In the formation of a Vine border which is intended to be of a permanent nature the manures that may be used should be of a lasting character, so that it will afford support to the Vine as long as possible. The generality of gardeners have now realised that to mix quantities of farmyard manure with soil for a Vine border is a mistake, for such manure does not contain more than 3 per cent. of the food the Vine requires, the balance being made up of inert matter, which clogs the pores of the soil, excludes the air, and leads to the border becoming sour. This evil is, I think, entirely obviated by the use of Thomson's manure, which I am perfectly satisfied contains everything the Vine requires, and so blended that while a necessary section of them comes into action at once others remain as a reserve for later use. Thus while the plant is at once stimulated and nourished there is ample provision made for its permanent support.

Messrs. Thomson & Sons' Vines at Clovenfords, Galashiels, were planted about twenty-two years ago in such soils as they could procure. It was largely composed of the *debris* of the Silurian rocks of the district, for it was chiefly procured by the roadside, and the roads are made up of the Silurian stone known to be cold and poor. After they had been planted from eight to ten years they began to deteriorate rapidly, as Vines often do at their age in good soil. Some hundreds of tons of manure procured from the cow feeders was applied, and the result was better foliage towards autumn, but the bunches shrank worse than ever. The use of the manure was then abandoned, as also bones, and now their own stimulant is employed exclusively. It would be a waste of time for me to attempt to give an adequate idea of the immense crops of Grapes cut from these Vines annually. I believe that Vine borders made up of fresh turf and Thomson's Vine manure in the proportion of half hundredweight of manure to one ton of loam will prove satisfactory, and will maintain the Vines in health and fruitfulness for at least a quarter of a century. If after the second or third year 2 lbs. weight per square yard of the manure are forked into the surface of the border every spring, and 1 lb. per square yard is added after the Grapes are thinned, the roots will be kept near the surface and be fed there. Bones, which are so much recommended, are of slow action unless they are finely ground. I have seen them in borders which had been made up for thirty years little reduced and not a root near them.

BORDERS.

Vines may be grown in a small space and in very little soil, as is evident by the splendid results obtained by their cultivation in pots, but they are soon worn out; one crop one season and they are done. If Vines are desired that will last for twenty-five or thirty years borders of considerable size must be provided, and this is best done in sections. If young Vines are to be planted 4 to 6 feet will be found sufficient to make up the first season, adding a similar portion as the roots extend, and so on until the space is filled up.

Much discussion has taken place as to having the Vines planted with the roots inside or in borders outside the house. I prefer the former for very early forcing, as also for late houses. The disadvantages are the great amount of labour required in watering, and the skill and care necessary in keeping up the requisite degree of moisture at the roots. A scarcity of water, or a little neglect in its application, will ruin the crop. On the other hand, outside borders require little attention in regard to watering, except in a summer like that which we have had. For the general crop of Grapes, and for all ordinary cultivation where constant care cannot be given, outside borders are preferable.

DRAINAGE.

This is one of the most important matters in the formation of a Vine border, and one that in some situations entails a considerable amount of trouble and expense to render it efficient. It is a point that should always be taken into consideration in selecting a position for a vinery,

for if it cannot be drained freely it is not a proper site. Many gardens with a gravelly subsoil are well drained naturally, and so require little preparation, but I would never trust to that. It is better to take all ordinary precautions at the first rather than run any risk, and then after several years of loss and disappointment to have all the work to do over again. A considerable amount of draining material should be placed over the whole of the bed of the border—say, from 1 foot to 15 inches in depth, and certainly never less than 9 inches; the back of the border ought to have a few inches more than the front, sloping into a drain 10 or 12 inches lower to carry off the superfluous water. The best material for drainage will be found in old bricks and lime rubbish. In the formation of a Vine border everything ought to be taken into consideration, not only the position, but also the level of the border. The amount of excavation necessary in making up the border will be determined by its depth, measuring from the surface level; thus a border raised 2½ feet requires only to be excavated to a depth sufficient to hold the drainage. It is folly to dig a deep pit, which only acts as a reservoir for the drainage of the surrounding land, and nothing could be more injurious to the roots of Vines.

COVERING BORDERS.

It is an old custom, and I think considered by many to be needful, that Vine borders should be covered, but I do not now think it is necessary in ordinary cases. The beneficial effects of frost on soil are well known, and it is a good practice to expose the soil of a Vine border to its action as much as possible. For early forcing a good covering of dry leaves will ward off cold rains, and, no doubt, assist in keeping up the temperature of the border, which is a most important feature in an early vinery; but for late and general purposes the border is better exposed to the free action of the weather. I remember very distinctly a case which came under my notice, and which I took particular note of at the time. While working as a journeyman gardener in a rather remote corner of Scotland where we had a fair share of frost and snow, a span-roof house of 70 feet was pruned and thoroughly cleaned the first week in January; the pipes were emptied of water, and the ventilators opened up until the 1st of March. On four mornings in January 20° of frost was registered. There was no mulching on the border either outside or in, yet I never saw Vines start better than these did.

WATERING.

More Vines are ruined through the want of water than perhaps any other cause known. The quantity of water a Vine requires when growing in well-drained borders is astonishing. I do not think they can receive an excessive supply. Before the Vines are started into growth every particle of the soil should be thoroughly saturated, and from the time they come into leaf until they begin to ripen the fruit. After that a somewhat drier condition should be maintained, but the soil should not be allowed to become dry even then. I never apply artificial manure while the border is in a dry state. I think it has much more effect when applied two days or so after rain, and then I give just sufficient water to carry the manure to the roots.

RENOVATING OLD BORDERS.

Old and apparently worn out Vines are sometimes restored to vigour by a little fresh material being applied to the roots. It is the fear of loss, however little it may be, that often prevents any adequate means being taken to improve them; but by careful management Vine borders may be renewed without any loss. If these facts were fully recognised we might see less poor Grapes. One difficulty in the way of this is to have the fruit the Vines may be producing ripe in time for the operation to be performed sufficiently early to get the roots to take to the new soil before the end of the season. As soon as the fruit is cut, say about the end of July, clear away the old soil and trace out carefully all the roots that may be found. These must be shaded from the sun and frequently watered; then make up the border with fresh soil and replant as soon as possible. Success greatly depends upon the time taken in doing this, as the Vine roots suffer greatly if kept long out of the soil, but if care be taken a few days will do no harm. Notch the larger roots here and there with a knife, as it induces them to throw out plenty of young roots where cut. In making up the border make several layers of roots, place a few in the first layer of new soil, then sprinkle on a few inches more, then lay in a few more roots, and so on, having the last layer of roots not more than 3 inches from the surface. The Vines will flag for a time, but shade them heavily for a time, then slightly for a little longer, water them well, and there need be no fear of the result. I have just finished the renewal of one of the borders at Ware House. It is much later in the season than I like for the work. At first it was my intention to partly renew the border, but finding the drainage in a very unsatisfactory state I turned the whole of it out. The new border is composed of the same ingredients as I have recommended for the formation of borders, 1 cwt. of hoof and horn shavings being added in addition to the manure. I consider it a fine fertiliser to put into the first layers of soil.

In regard to the houses for the cultivation of Grapes the greatest latitude may be allowed. It is not to be assumed, however, that certain structures are not better adapted for their cultivation than others. It is the little difference from this or that which leads on to failure or success as the case may be. A house which may be very suitable for early Grapes may be unsuitable for late Grapes, and *vice versa*. Vineries are of three classes:—1, The early vinery for early or forced Grapes. 2, General crop, including all unheated houses.

3, Late vineries for keeping Grapes late in the season. Special arrangements are required in each case, but I cannot attempt to describe them here; I will leave the details to be fitted to each particular case.

(To be continued.)

NATIONAL CHRYSANTHEMUM SOCIETY.

OCTOBER 12TH, 13TH, AND 14TH.

A FAIR display of bloom is gathered together at the Royal Aquarium this week, the occasion being the early show of the National Chrysanthemum Society. The Japanese are the main feature, most of the other sections being only poorly represented, but on the whole the Exhibition is worthy of a visit.

Two groups are in competition in class 1, the better being that arranged by Messrs. Reid & Bornemann, Sydenham, who display their usual combination of healthy plants, good blooms, and tasteful disposal. The main position is composed of Japanese and incurved, such as Avalanche, W. Tricker, Beau Rêve, Mons. Bahuant, Sunflower, W. H. Lincoln, Mr. Chas. Shea, Geo. Jones, and Madame Harman Payne. Towards the front are a number of free-flowering Pompons and reflexed Japanese, such as Comtesse de Cariel, Madame A. Colimiche, and Piercy's Seedling, which give a good finish to the group. Mr. Davis is second. The first prize for six plants goes to Mr. Nedry, gardener to the Rev. R. W. Powell, Holy Innocents, Hornsey, who has Mrs. Burrell, Madame Desgranges, and J. G. Wermig loaded with flowers, the first especially. There is no other competitor. He also wins with twelve, profusely bloomed examples of Madame Desgranges, Mrs. Burrell, Mrs. Hawkins, and George Wermig representing him. Mr. Howe, gardener to H. Tate, Esq., Park Hill, Streatham Common, is second.

The principal class for cut blooms is that for the Japanese, in which the first prize goes to Mr. W. Higgs, gardener to J. R. Hankey, Esq., Felcham Park, Leatherhead, who has good blooms of W. H. Lincoln, Violet Rose, Gloire du Rocher, Louis Boehmer, Mons. Bernard, Excelsior, and Mrs. Nisbet. They are heavy flowers, well filling the stand. Excelsior is a fine telling flower of a rich rose colour, and with very broad florets. Mr. Cox, gardener to J. Trotter, Esq., Bickenden Grange, Hertford, is second with a heavy stand of fresh flowers, amongst which Avalanche, Boule d'Or, M. Tarin, Mrs. F. A. Spaulding, Miss Anna Hartzhorn, and Mdllc. Marie Hoste are conspicuous. Miss Anna Hartzhorn, an incurved Japanese, is the greatest ornament of the stand. The florets are broad and of a beautiful wax-like texture, somewhat reminding one of Puritan. Mr. Ritchings, gardener to Dr. Frankland, The Yews, Reigate, is third. He has grand flowers of Edwin Molyneux, Avalanche, but many of the others are somewhat small. In the class for twelve Mr. Rowbottom, gardener to H. R. Williams, Esq., The Priory, Hornsey, wins with a very fine box considering the early date, for if the flowers are not of the largest size they are very fresh and of beautiful colour. W. H. Lincoln, Edwin Molyneux, Coronet, and W. Tricker. Mr. James Agate, East Street, Havant, is second with a stand mainly composed of light flowers; and Mr. Cox third.

Incurved are not so abundant, there being but one stand of twelve, and it is evident we must look to the other sections for early shows. Mr. Wells, Earlswood Nurseries, Redhill, was the solitary exhibitor, and he is placed first for a moderate collection, composed of Mons. Bahuant, Prince of Wales, Mrs. Dixon, Bonsignour (?), Jeanne d'Arc, Madame Mistral, and Mr. G. Glenney. He is also first for six, but in both cases the varieties are a mere shadow of their average quality, and the classes serve no useful purpose. Mr. Davis wins with twelve bunches of Pompons, and Mr. Tickner, gardener to J. Watney, Esq., Thermanbury House, Reigate, with six. The latter has a good stand, the varieties being Black Douglas, Mdllc. Elise Dordan (very neat), J. Maurisol, Souvenir de Jersey, La Vogue, and Curiosity.

In the single-handed gardeners' class for twelve Japanese, Mr. Tickner is the only exhibitor, and is placed first for blooms of medium quality, W. H. Lincoln being perhaps the best. He also wins with six, which are of a very similar character to the twelve. Mr. Tuck, gardener to J. Boney, Esq., Cholmeley Lodge, Highgate, is second. A second prize for twelve bunches of Pompons goes to Miss Debenham, St. Peter's, St. Alban's.

Messrs. W. & G. Drover, Fareham, exhibit a new board for Japanese which they propose for general adoption. It is 28 inches by 21, the holes 7 inches apart, the height at the back 8 inches, and at the front 3 inches. Mr. W. J. Godfrey, Dartmouth, exhibits two new Japanese seedlings, one named Beauty of Exmouth being a very promising white variety. It has long, slender, curled florets, is of good size, and very deep. At present the blooms are unfinished, but it should develop into a champion flower. The other, Duchess of Devonshire, is, we understand, a seedling from Stanstead Surprise, and is not yet in a condition to be judged. Mr. Owen, Maidenhead, has a number of English seedlings, General Hawkes and Lady Brookes, honoured by the R.H.S., being among them. October Yellow is a promising decorative variety, and Mrs. C. Myers a pleasing white Japanese. Percy Waterer, Esq., exhibits a neat box of Lady Selborne, which receives honourable mention. Dr. Walker exhibits his cup and tube. Messrs. Pitcher & Manda, Hextable, Swanley, have a collection of cut blooms and also herbaceous flowers (silver medal), and Mr. Davis receives a similar award for a mixed collection. Mr. H. J. Jones, Lewisham, has a display of Chrysanthemum blooms, interspersed with Ferns, and a silver medal is awarded. Messrs. Laing & Sons have a large and beautiful group of Begonias, and also a very extensive and fine collection of fruit and Potatoes (silver-gilt medal). Messrs. Cannell & Sons exhibit a number of beautiful Cactus

Dahlias. Mr. W. Wells has an excellent mixed collection of Chrysanthemums (silver medal). Messrs. Cheal & Sons, Crawley, have a long table of splendid fruit (silver-gilt medal), and Mr. M. V. Seal, Sevenoaks, a fine collection of Dahlias (silver-gilt medal).

There is some grand produce in the competition for Messrs. Sutton and Sons' special prizes, but time does not permit of particulars being given. In the evening of the first day a Conference was held on the subject of boards for Japanese, a report of which will be given in our next issue.



HARDY FRUIT GARDEN.

The Fruit Room.—Every season the fruit room ought to have a thorough overhauling and a good cleansing given. The walls ought to be whitewashed and all the woodwork scrubbed down, the aim being to make the room as sweet as possible. Apples, and in a lesser degree Pears also, are very porous, and the flavour is easily tainted in a musty atmosphere or from contact with anything scented in any way. Nothing in the shape of hay or straw should be permitted in the fruit room, and the fruit ought either to be stored on the clean boards or on fresh "kitchen" paper.

Root-pruning.—When fruit trees grown on the various restrictive systems assume year after year a chronic state of unfruitfulness there is something wrong either with the roots or the methods of managing the branches. Making too much wood in summer, before any attempt is made by the cultivator to restrain the natural vigour within proper bounds, is usually the cause of destroying the necessary balance between root and branch. Summer pruning does much to restrain the growth of wood and concentrate the sap in the fruit-bearing spurs, as well as in the formation of buds that will eventually be fruiting spurs. But sometimes, owing to the excessive vigour of strong roots, correct pruning and branch management are not sufficiently capable of sustaining trees in a permanent bearing condition. Root-pruning then becomes absolutely necessary. The production of a large amount of gross wood and correspondingly ample area of leafage has a powerful effect on the roots, which, as a rule, when receiving extraordinary stimulus, descend perpendicularly. In doing so, especially in rich ground, they become very strong. The same result also occurs in a moist subsoil. The results then are coarse, thick roots followed naturally in the growing season by gross watery wood.

Benefits of Root-pruning.—The immediate effects of severing strong, coarse, and powerful roots is to check the vigorous flow of sap in the branches; this will induce a steadier distribution through every part of a tree. Hence many buds, some of them weak fruit buds perhaps, which have hitherto been passed by, will secure a chance of obtaining that necessary support which they need to become fruitful. The check upon the system of the trees is also apparent in the formation of fresh roots, which, carefully encouraged, will be, and continue to be, of a fibrous character. They are always produced nearer the surface than those of a coarser nature, and are capable of absorbing food in a manner that does not exceed the requirements of the trees. Roots of this kind are termed feeding fibres, being generally abundant in proportion as the trees are fruitful. When duly supplied with roots like these ramifying near the surface in a suitable medium most trees continue fertile. They require, however, to be encouraged and sustained by adequate supplies of food placed within their reach, which is usually accomplished by top-dressings of soil and manure, with due supplies of moisture.

Time to Root-prune.—Severe cutting or shortening of the roots should never be done whilst trees are in full leaf, nor yet carried to excess at any time. The larger the trees the more care must be exercised in the operation. The latter part of October and during the first half of November are undoubtedly the best times for root-pruning, because then the soil has still some amount of warmth in it. The pruned roots can take advantage of this to commence first their work of healing, then of fibre formation before the sap is quiescent or at its lowest ebb. All the most valuable trees that require careful manipulation should be operated upon at the earliest opportunity, while those of less moment may be deferred to the later period, or even to any suitable time during the winter; also early spring, before growth commences, is a suitable time. Autumn, however, is the best time when it can be done, roots then forming more quickly.

Method of Root-pruning.—It is not advisable to sever the roots completely round of any very large specimens, but only to treat one-half or one-third, according to the age and strength of the tree. Take also into account the number and vigour of the strongest and largest roots. Sufficient check will be given at one time by this method without endangering future growth. The following season a part or whole of the remaining roots can be operated on as may appear necessary, taking as a guide and criterion for forming a proper judgment on the matter the character of the season's growth. Should little or no diminished grossness be apparent, it is evident that further reduction of roots must be made.

Details of the Operation.—These are simple, but upon their careful carrying out greatly depends the success or otherwise of the experiment. First of all a wide trench should be cut out at a distance of from 3 to 6 feet from the bole or stem. The exact distance must be regulated by the size of the tree. All roots found on the side of the trench should be cut off. When sufficient soil has been taken out to form a deep and wide trench the bulk of soil and roots surrounding the stem must be carefully examined as the operator, standing in the trench, works away the soil from among the roots with a fork. The strong roots, perhaps roughly severed when cutting the trench, must be traced to see whether they have branch roots of a similar strength. In many cases the chief cause of vigour and over-luxuriance lays in the perpendicular descent of the tap root, which requires to be severed. Some trees, when the principal roots on one side have been cut, can be carefully drawn over so far as to expose to view the whereabouts of this main feeder. All cuts should be made on the under side of roots, drawing the knife from the tree towards the operator. Others, such as those growing against walls and any not desirable to disturb too much, can be undermined to reach the tap root.

General Treatment of the Roots.—During the operation some amount of care is necessary in preserving those retained from injury and preventing shrivelling by too long exposure to the effects of sun or drying winds. As a number are loosened from the soil it is best to fasten them together out of the way, and cover with some damp material such as hay or a moistened mat. It will be found, as a rule, that the roots of luxuriant trees have had a downward tendency. This must be rectified by encouraging a more horizontal growth, which can be done in the process of re-laying the smallest roots, placing them so that when fibres are emitted they will extend near the surface. In trimming the roots special care must be taken that every jagged end or injured portion is cut clean to good parts. The proper way is to cut the roots from the bottom upwards at the shortest possible angle, using a sharp edged knife. Where any fibrous roots are present those should be carefully retained, and the cuts on the larger roots made as near to them as possible. In filling in the soil introduce some fresh of a light loamy character, but avoid manure mixed with it. Make the soil firm as the work proceeds. Where abundant roots exist they may be shortened at different lengths.

Mulching and Staking.—After the work is completed all trees ought to be carefully secured against rocking to and fro by the wind. The best plan is to wrap some sacking or similar material round the stems at about half way, to which three strong wires should be attached, drawn tight and fastened securely to strong wooden stakes driven well into the ground at an angle beyond the loosened portion; then mulch the ground as far as the roots extend with short littery manure, which will serve to retain some of the warmth in the soil, prevent rapid drying, and resist severe frost.

FRUIT FORCING.

Pines.—*Young Plants.*—These should now be arranged so as to derive the fullest benefit of light and air, keeping the glass clean both inside and outside. As the sun heat diminishes a corresponding diminution of temperature must take place until it reaches the winter standard of 55° to 60° at night, and 65° in the daytime. A high temperature by artificial means only induces a weak attenuated growth in the plants, and that is fatal to their producing good fruit later on. Ventilate freely on all favourable occasions, particularly on fine mornings; but avoid cold drying currents of air, as these only stunt the plants, and cause them to yield fruit prematurely. Make an examination of the plants about once a week for watering, and whenever a plant needs water give it copiously at about the same temperature as the bed, but only when absolutely necessary.

Plants to Fruit Early Next Year.—Queens are the best to afford a supply of early fruit, and to insure the plants throwing up fruit at the proper time they must be given a comparative rest after making good growth. Those intended to show fruit early in the year should be kept in a house with a temperature of 65° in the daytime by artificial means, ventilating at 70° and closing at that temperature, the bottom heat being kept steady at 70° and the night temperature at 60°. Keep the plants on the dry side, watering only when necessary; yet do not let the soil become so dry as to cause limpness of the foliage, which weakens the plants.

Plants Showing Fruit.—Such will afford ripe fruit when it is scarce and dear, therefore give the plants the best position in the fruiting department, both as regards proximity to the light and plenty of space. Keep the bottom heat steady at 85° to 90° at the base of the pots. Maintain a temperature of 70° at night, 5° less when very cold, 75° artificially by day, advancing from sun heat to 85° or 90°, and close the house at 85°. Sprinkle the pathways when their surfaces become dry, and occasionally bedew the plants on fine afternoons. Examine the plants once a week for watering, and when any require it afford a copious supply of clear liquid manure at about the same temperature as the beds; but neither these plants nor fruiters must be over-watered, as that has a tendency to cause the fruit to be black at the centre when cut.

Peaches and Nectarines.—*Earliest House.*—Prune the trees when at rest and put the house in order. The trees having been properly attended to in disbudding, and the growth equalised, there will be little need of pruning. Any weak wood, however, may be removed, and the leading shoots be shortened, so as to originate the requisite growth for furnishing the trellis, and, where too crowded, the

shoots may be thinned. Untie the branches from the trellis, cleanse the house thoroughly, and after washing the trees with soapy water, 3 ozs. softsoap to a gallon of water, dress them with an insecticide before again securing them to the trellis. There should not be any attempt at tight tying, but plenty of space must be left to allow for the swelling of the branches. Limewash the walls, remove the surface soil down to the roots, and supply fresh turfy rather heavy loam, with a tenth of old mortar rubbish and a bushel of wood ashes to each cartload of compost, making firm, and following with a good watering. The outside border also should be surface dressed in a similar manner, and, if in a thoroughly moist state, protect with about 3 inches thickness of leaves and a little litter to prevent their blowing about, as cold rains reduce the temperature of the soil considerably, but allow the soil to be thoroughly moistened before covering. Where the lights have been removed, they may remain off until bad weather sets in, otherwise admit air to the fullest extent.

Second Early House.—The trees now have the foliage down, except a few vigorous ones, and in their case the falling of the leaves may be assisted by lightly brushing them with a broom. Now is the time to cleanse the house and dress the trees, also to top-dress the border, as the insects are then destroyed before they have time to find secure winter quarters, and the roots push into the new soil at once. Where the trees have been properly managed there will be little wood to cut out, confining it to removing any useless parts having escaped the knife at thinning after the fruit were gathered, and these, with other shoots not required for next year's bearing, should now be removed. Any shoots considered too long may be cut back to a wood or triple bud, making sure that the centre one is a wood bud, which is not always the case, and to leave sufficient wood with fruit buds for insuring a crop next year. Shoots of 8 to 12 inches length must not be shortened, nor need those that are very much longer, as all shoots have a few wood buds at the base and one at the extremity, and others amid the fruit buds, especially vigorous growths; but in the case of weak shoots the intermediate buds are generally blossom buds only. To retain much wood is a great mistake, as the trees are weakened by an excess of blossom, and there is not space for training in the necessary growths for future bearing so as to insure their thorough exposure to light and air. If the lights are off, do not replace them until severe weather comes, but allow the borders to become well moistened by the autumn rain. If the lights are fixed allow plenty of air at all times; avoid permitting the borders to become dry, but keep in a moist condition by watering as necessary.

Midseason Houses.—In these the foliage is approaching maturity, and the lights being kept open day and night as they should be, the wood will mature well, and where that is effected the roof lights may be removed, which will ensure an even and thorough moistening of the soil, and there is no water like rain for refreshing the trees and enriching the soil. If the trees are too vigorous, not setting and stoning the fruit well, lifting or root-pruning should be attended to as soon as the wood becomes firm and the buds are plumped, so that fresh roots may be formed, this being more certainly effected when the trees have foliage than when it is deferred until they become leafless. Any trees that are unhealthy should be lifted, and have the roots laid in fresh soil, and this done carefully has a beneficial result.

Late Houses.—Late Peaches are as valuable as they are tempting in appearance, and they ripen under glass in the worst seasons. Barrington and Late Admirable were at no distant date our best late Peaches, and Salwey seldom ripened, and when it did was dry and flavourless. Now we have some first-rate varieties, with size and appearance, and when given due supplies of water and nourishment when the crop is swelling, also when the fruit is taking its last swelling for ripening, the quality is as good as the looks, otherwise the fruit is often dry and mealy. Princess of Wales, Lady Palmerston, Prince of Wales, Lord Palmerston, Sea Eagle, and Nectarine Peach ripen in September as a rule; but we have had fine fruit of those varieties in October, Sea Eagle as late as the 12th of that month. Gladstone, Golden Eagle, and Comet are the latest good Peaches, and the first is unrivalled by any midseason variety for quality. By ventilating freely through the summer they may be had as late as when grown outside, and the fruit can be insured ripening, which is more than can always be effected outside. In cold localities culture under glass is imperative, with command of fire heat to insure the ripening of the wood, the varieties Prince of Wales and Lord Palmerston being unsatisfactory in some districts without artificial heat; but with it they are simply superb in size and first class in quality. The wood should be kept thin so as secure sturdy short-jointed wood and to get it well ripened. Shoots that have borne fruit, and not being extensions, should be cut out as soon as the fruit is gathered. Trees growing too luxuriantly and late may have a trench taken out at such distance from the stem as will check their vigour and cause the buds to become plump, and after remaining open about three weeks the trench should be filled up and the soil made firm.

THE FLOWER GARDEN.

Unightly Flower Beds.—Early frosts sadly disfigured very many flower beds, and a spell of wet sunless weather has spoilt the appearance of still more. Nor is it possible for many of them to recover from these adverse effects, and the sooner the beds are put into a more orderly state the better in most cases. Where the beds have to be filled with shrubs and spring-flowering plants, as much as possible of this ought to be done before November. Dry weather should be chosen for this important work, as then it can be done without unduly disfiguring the walks and turf, and if the beds are a little on the dry side so much

the better, nothing ever thriving so well when it is little better than puddled in. Therefore unhesitatingly break up the disfigured beds, and proceed at once with the work of refilling.

Hints upon Planting.—Nearly any kind or variety of Conifer in a small state looks well in masses, but the coloured forms of *Retinosporas*, *Thujas*, *Cupressuses*, *Yews*, and such like as specially prepared by the leading nurserymen for the flower garden, are by far the most effective. Variegated tree Box, *Hollies* in varieties, *Berberises*, *Ivies*, *Osmanthus*, and *Euonymuses* are also admirably adapted for the decoration of flower beds, and with these may be associated *Pernettyas*, *Cotoneasters*, *Skimmia japonica*, and other berry-bearing plants. Very neat dwarf *Rhododendrons* in beautiful variety and well set with buds can also be had at a comparatively cheap rate, and these are very gorgeous late in the spring. Handsome trees 18 inches to 2 feet in height of the Conifers named are most effective when dotted among dwarf flowering and variegated foliaged plants, and to these may well be added elegant *Yuccas* and variegated *Iris*. All transplant readily both now and again next spring, and if taken good care are available for the beds several autumns in succession. Flowering plants such as *Wallflowers*, *Forget-me-nots*, *Silenes*, *Saponaria*, *Polyanthuses*, *Primroses*, *Daisies*, *Limnathes*, and others should, if provided in sufficient number, be planted rather thickly, as they seldom make much top growth, after being placed in the beds. See that they are in a moist state at the roots before they are lifted, move with a good ball of soil about the roots, and replant firmly. Golden *Pyrethrum*, if not allowed to flower, will be available for replanting, and the smaller Beet from either flower borders or the kitchen garden will give a little colour for several weeks, and if the winter is mild look well till next summer, especially if the flower stems are pinched out. Old *Violas* should have straggling growths cut away, and if divided and replanted will present a very gay appearance next spring, flowering a little later than summer-struck plants.

Spring-flowering Bulbs.—Freely used these enliven the flower garden surprisingly in the spring. *Narcissi*, *Hyacinths*, *Tulips*, *Leucoiums*, *Crocuses*, *Scillas*, and *Snowdrops* associate well with the shrubs and plants already named, or the beds may be principally filled with them and carpeted over with short neat pieces of tree *Ivy*, *Box*, *Aucubas*, *Hollies*, *Laurels*, *Mahonias*, and other evergreens, these presenting a fresh appearance, being a great improvement on the bare soil for several months, and benefit rather than injure the bulbs underneath. Beds of *Hyacinths* in one colour edged with either *Snowdrops*, *Crocuses*, or *Scillas* in contrast are very gay, a change being afforded by a mixture of colours. The same remarks apply to *Tulips* and *Narcissi*, grouping them together answering better than general mixtures. In large beds circular patches of either *Narcissi*, *Hyacinths*, or *Tulips* might alternate with other flowering plants, or dwarf Conifers and shrubs, or they may be interspersed among the latter when these are thinly planted. If *Hyacinths* fill the centre of the bed dispose them 9 inches apart each way, while if the surface of the bed is carpeted with other plants, the bulbs may be put out 12 inches asunder with advantage, the crowns being covered about 4 inches deep. Where the soil is of a heavy nature surround each bulb with sharp sand; *Narcissi* to be treated similarly to *Hyacinths*. Plant the neat growing *Tulips*, notably the *Van Thols*, 4 inches apart and 3 inches deep, but the stronger varieties may be disposed 6 inches asunder. A little fresh gritty soil benefits *Tulips*, and the choicer varieties ought certainly to receive this extra attention. *Snowdrops*, *Scillas*, *Crocuses*, and *Winter Aconite* are most effective near the margins of beds, and planted in double lines or circles. Plant 4 inches deep, and not more than 3 inches apart. On light warm soils *Ranunculuses* may be planted in November, but where the soil is of a cold clayey nature keep them out of the ground till a favourable time arrives for planting in February.

Shrubby Calceolarias.—As yet these plants cannot well be dispensed with in the flower garden, and a good stock ought to be raised. It is not yet too late to insert cuttings. No bottom heat is required, but it is advisable to raise shallow frames well off the ground with the aid of old hotbed material not far advanced in decay, also partly fill the frame with the same and then cover with about 4 inches of light loamy soil, on this placing 2 inches of sifted soil, making this firm and level and facing over with sharp sand. Select short, firm, flowerless shoots, cut these below the third joint, and trim off the lower pair of leaves. Dibble them in at once and just clear of each other, taking care that the cuttings touch the bottom of the holes, fix firmly, and give a gentle watering. Keep the frame close and shaded from bright sunshine till the cuttings freshen up and fail to flag when the sun shines on them, after which ventilate freely in order to keep them as hardy as possible. Protect from severe frosts only.

Bedding Violas.—Autumn-struck plants of these are by far the best for summer bedding, and properly treated they are unrivalled for brilliancy, especially during the early part of the season. Although much hardier (they are quite hardy in fact) *Violas* succeed admirably under precisely the same treatment as *Calceolarias*. Prepare frames as for the latter and select the young shoots springing from the centre of the old plants, make these into short cuttings, dibble them in rather thickly, and treat exactly as advised in the case of *Calceolarias*. Failing plenty of the young central shoots make the best of the flowering tops into cuttings, as these will develop into very good plants, fresh growths springing up from below the surface next spring.

PLANT HOUSES.

Stephanotis floribunda.—Plants that are grown in pots and have completed their growth may be taken from the roof and thoroughly

cleaned. If they are not too large they should be thinly trained round stakes and stood in any dry structure where the temperature ranges about 50°. The plants will need less water during the process of ripening their wood prior to resting. The wood must be thoroughly matured, and a good rest is essential to their flowering profusely another season.

Allamandas.—Where these are desired in bloom as early as possible the plants should be dried at their roots and removed to a temperature of 50° to 55°. They will soon rest under these conditions, and in six or eight weeks may be pruned and introduced into heat. It is not necessary to dry these plants so that every leaf falls from them; on the contrary, all that is necessary is to treat them as semi-evergreen. We frequently prune back the plants when they are in full leaf, provided they have been kept dry and in a lower temperature, and they flower profusely. The *Allamanda* flowers are useful at this season of the year, and may be had by giving the plants brisk heat and supplying them with weak stimulants.

Bougainvillea glabra.—With good and well-ripened growth the plants will be safe in a temperature that does not fall below 45°, and if kept rather dry at the roots the plants will soon go to rest. A lengthened period of rest in a low temperature is essential to the successful flowering of this useful plant. To allow every ray of sun possible to reach the best growths the others may be cut clean away.

Caladiums.—These are rapidly dying down, and should be stored in any dry place where the temperature will range about 55°. We find they rest, and the tubers are perfectly sound in this temperature. If kept in a low temperature the tubers are certain to decay. Some care is needed not to hurry the plants to rest; they should be allowed to die down gradually, and then the pots may be laid on their sides. The same remarks apply to *Gloxinias* and *Achimenes*, but they are safe in a lower temperature.

Justicia flavicom.—Some of the earliest plants are coming into bloom, and may be removed to the conservatory, where they will be found useful. The plant deserves to be much more largely grown for the embellishment of houses that have to be kept gay during the winter and spring. When the first flowers fade place the plants in an intermediate temperature, and they will flower again in due time, in fact for three times in succession, and frequently the second bloom is the best. A temperature of 50° will suit them very well.

Begonias.—Plants raised from seed or cuttings in spring and grown in cold frames will flower profusely during the next two months if placed where they can enjoy a temperature of 50° to 55°. These varieties are invaluable for supplying flowers at this period of the year. However useful such varieties as *Ingrami*, *Knowsleyana*, and others may be at this season the tuberous forms are still more valuable for supplying flowers for cutting for room decoration. Seedling varieties of *semperflorens* may be allowed to come into flower, while those of *semperflorens gigantea* may be pinched to induce them to branch. These thrive well in a temperature of 50°, and may be placed into larger pots if they need it. *Weltoniensis* is nearly over, and the plants may be stood at the back of a vinery to rest; the few remaining flowers can be cut.

Dracenas.—If these plants are checked in their early stages by insufficient root room they seldom do well afterwards. A small shift which will be ample to keep them growing slowly during the winter. Young plants in 3-inch pots must be placed into 5-inch or, they will be useless for growing early in the year. Careful watering is needed after the plants are potted at this season; if overwatered the evil is as bad as if the plants suffered by confinement at their roots.

Gardenias.—Clean these thoroughly, and if the plants have been all grown together divide them into two portions. Place the earliest in a temperature of 5° warmer than the others, and if buds are already formed flowers will soon follow. Do not allow the plants to suffer by the want of water, and be careful not to give stimulants too strong.

Epiphyllums.—Where these were assisted by gentle warmth to make their growth and have been since well ripened in the greenhouse many of the plants will have their flower buds in a prominent condition, and may be placed in a temperature of 50° to 55°. They look well when elevated on pots in a groundwork of *Adiantum cuneatum*. *Epiphyllums* are much more useful during the closing months of the year than when they flower towards spring. Water the plants carefully; the extreme drying system practised by some persons is ruinous.

Dipladenias.—These must be watered with great care, or the plants will be seriously injured. If they have been trained up the roof and the growths are fairly well ripened take them down and train them round stakes. In this way the plants can be more carefully attended to than when their pots are standing behind other plants, practically out of sight.

Ixoras.—As these go out of flower place them at the warmest end of the house, and syringe them freely during bright weather. Watch for thrips, which if allowed to exist will soon destroy the foliage. Apply water carefully, but do not allow the plants to suffer by an insufficient supply.

Gloriosa superba.—Allow this useful plant to go to rest by gradually withholding water. Do not unduly force rest upon it, or the tubers will suffer and feeble growth follow next season.

TRADE CATALOGUES RECEIVED.

Dicksons (Limited), The Nurseries, Chester.—*Select Roses*
J. Schwartz, Lyon, France.—*Roses*

THE BEE-KEEPER.

APIARIAN NOTES.

FEEDING.

THIS, as I have often explained, is a necessary evil, and should never be resorted to unless it cannot be avoided. There are times when it must be done if profit is the object in view. By feeding, we can start bees to breed at unseasonable times, and sometimes to a greater extent than unfed hives; but the latter in spring, where stores are sufficient, are generally ahead of fed ones when the honey season comes on, with the additional advantage of having a queen less exhausted than are queens of fed hives, the latter often depositing twice or three times the number of eggs that are brought forward. On the other hand, it is sometimes positively ruinous to neglect feeding during May and June. Often in the last-named month bees with plenty of stores, during a spell of wet or cold weather, will eat out every egg and larva, and draw out all young bees. This is a frequent occurrence at the times mentioned, as well as at the Heather. I specially mention this, as I have several inquiries about the conflicting statements of this and Punic bees in other journals. The editor of one of these, in answer to a Scotchman's young bees being cast out, says they "are quite young, unflown ones, and are not likely to have been cast out of the hive by the older bees." Nothing is more sure than they are cast out, and this is carried on to a far greater extent than is often supposed; result the end of all profit.

I could quote hundreds of instances, but the following case that occurred in an apiary near me this summer will illustrate vividly the facts. A favourite and supposed extra strong hive was on the 15th of May quite full of bees, brood, and eggs. On the 22nd of the same month there was not a vestige of brood nor eggs to be seen. To have prevented this extensive "brood drawing," 2 or 3 lbs. of sugar should have been given, and thereafter every day till honey came in, about 2 or 3 ozs. daily, fed in a tin scoop from below. These occasions are the only ones (unless nuclei) when dribbles of sugar should be given. "Stimulative" feeding from a pinhole is delusive. I do not urge bee-keepers to take my word for all that; the least thing they can do is to put both systems to a fair test, and I know, without being told, which will give satisfactory results.

PREPARING HIVES FOR WINTER.

Unfortunately, owing to the untoward season, many are still unfed and uncovered, with supers still on. When it is fair, and the ground dry enough not to chill bees, I shall remove the supers, cover the top of the hive with a woollen cloth, and over that 3 or 4 inches of dried grass; the empty supers will be replaced within the super protector over this grass, and the lid screwed down, but not quite close, so as to permit the perspiration to pass off. The iron roof protects the alighting board, and sides of the hive covering from moisture.

Straw hackles are superior in every respect to cloths generally used, inasmuch as they keep the frost entirely out while they permit a free circulation of air.

LARGE DOORWAYS

I have no faith whatever in. It is a mistake to say, "Nothing tends more to keep bees in health than plenty of air in damp, muggy weather." A solid floor and a wide doorway cause the perspiration to be condensed upon the former, which is instant death to the bee that touches it when the temperature is below 50°. Wax is one of the best non-conductors of heat, and when the combs are within bee-grip of a dry floor their vitality is insured. Not so when it has been impaired by coming into contact with a damp floor, the worst evil bees have to contend with.

DYSENTERY.

One of the most common and fatal forms of dysentery is brought on by lowering the temperature of the hive, which prevents the bees moving about freely and feeding at proper intervals during all weathers. Whenever bees fast too long their evacuations become watery. Wide doorways and damp hastens on this fatal disease.

HOW TO MAKE HACKLES.

It is not so easy making straw hackles by the ordinary method of plaiting, as is by taking a handful of straw, turn a loop upon the top end, then tie firmly with twine. After a sufficient number are made pass a strong cord through the loop or eye, then tie at one corner of the hive, cut the ends of the hackle equal, and a little shorter above entrance; before trimming off tie the hackle

firmly in two places to keep close to the hive. A useful thing in the apiary and the garden is

A HAND BARROW.

To transport heavy hives short distances, such as to a proper site at the Heather, a hand barrow is required. Procure two pieces of timber for shafts, about 6 feet long and 3 by 1½ inches, planed, and the ends dressed for handles. Then two slats of the length required are screwed to the shafts at the proper width to allow a hive to pass through. This is upon the same principle as a parallel rule. When a heavy hive is to be lifted pass it over the top of the hive, and the handles, when it is clear of the latter, raise them, and when the barrow is lifted the hive is suspended. Four short legs should be added to it.

SWARM CATCHERS.

The Americans speak in praise of these, which I have several times described in this Journal. "Ernest," in "Gleanings," says, "With the swarm catchers he was greatly pleased. These, the reader will remember, are to be attached by the apiarist to the entrance of the hive from which the swarm is just issuing." Both the swarm catcher and the hiver are my inventions, and have been in use in my apiary for thirty or more years. So that these, with our system of bee-keeping, should be tried by every beginner, to whom I will have more to say in future articles.—A LANARKSHIRE BEE-KEEPER.



* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Lællas Decaying (B. B.).—We have received your letter, but the parcel has not yet come to hand, and therefore a reply cannot be given in the present issue.

Ivy-leaved Pelargoniums and Marguerites for Bedding (J. L.).—Mr. Dunkin is requested to give the information you desire, and it will be useful also to other readers. See our instructions to correspondents at the head of this column.

Brown and Green Centred Primulas (J. S.).—Such varieties as you send, also the others alluded to, are to be seen in most large establishments in which a speciality is made of Primulas; and occasionally similar varieties, though they may not be exactly the same, result from packets of seeds of varieties in mixture. These varieties of Primulas are not very popular, nor the plants as a rule imposing in growth and floriferousness.

Evergreen for Hedge (F. L.).—The best evergreen for a hedge is Holly, planted 1 foot apart; but you want the "best and quickest growing," for which combination no plant equals the Evergreen Privet (not the "common," which sheds its leaves in winter), and it should be planted 6 inches apart when the plants are 1 to 2 feet and previously transplanted; but larger plants may be given more room if care is taken to have them near enough to form a good bottom.

Seedling Apple and Grape (E. W.).—The appearance of the Apples, which are more or less cracked, also your reference to the Ribston Pippin, suggest that the roots of the trees are in a medium that does not contain what is needed for promoting healthy growth. The fruits are also attacked with fungus. The trees require cleansing with lime and more support at the roots. Strong liquid manure applied copiously at the present time from the stem outwards beyond the spread of the branches might do much good. The Apple is not considered to possess any special value, and the Grape resembles those imported from Italy by the ton and sold in London for 4d. a pound.

Apples, Pears, and Plums for Table and Kitchen (F. L.).—Apples: Beauty of Bath, Lord Grosvenor, Worcester Pearmain, King of the Pippins, Beauty of Hants (Cobham or Pope's), Cox's Orange Pippin, The Queen, Bismarck, Reinette du Canada, Brownlee's Russet, Baumann's Red Reinette, and Bramley's Seedling. Pears: Doyenné

d'Eté, Williams' Bon Chrétien, Beurré d'Amanlis, Beurré Superfin, Louise Bonne of Jersey, Comte de Lamy, Durondeau, Emile d'Heyst, Maréchal de Cour, Doyenné du Comice, Josephine de Malines, and Bergamotte Esperen; stewing: Vicar of Winkfield, Catillac, and Directeur Alphand. Plums: Early Prolific, The Czar, Oullins Golden, Denniston's Superb, The Sultan, Belgian Purple, Early Transparent, Green Gage, Victoria, Jefferson, Kirke's, and Coe's Golden Drop. All are suitable for pyramids or espaliers.

Maggot on Peach Bark (*J. B.*).—This, on examination of specimens, turns out to be the frequent foe of this tree, also of the Apricot and Plum, called Tortrix Weberiana; the caterpillar produces a small silvery brown moth, of which there appear to be two broods yearly, so that the caterpillar is found in the spring and autumn. One of its effects is to cause exudations of gum and the growth of protuberances. It has been recommended to apply with a hard brush a wash of sulphur and lime, or the familiar one of petroleum and softsoap. Syringing or spraying does not so well remove the pest from the trunks or branches of trees.

Peaches Unsatisfactory (*West Riding*).—It is not uncommon for some varieties of late Peaches ripening in October to have very tough and dry flesh. We have usually found the defect a result of insufficient supplies of water and nourishment at the roots during the swelling and up to the last stages of the fruit ripening, accompanied by an arid condition of the atmosphere caused by drying currents of air. This appears to be your case, the moisture in the atmosphere and the water and nourishment at the roots having been inadequate to the demands of evaporation, which, being excessive, has caused the fruit to become woolly and juiceless. The treatment recently accorded the trees would only aggravate the evil, as the heat with ventilation would increase the evaporation. We can only recommend better supplies of water and nourishment at the roots from the time of the fruit commencing to swell until it is perfected, with a genial condition of the atmosphere. The condition your Peaches are in is more pronounced in light than in heavy soils through the deficiency of potassic matter in the former.

Espalier Trees (*H. W.*).—In forming espalier trees it is important to keep the lower tier of branches longer than the next pair above. If the lower branches are weak elevate them to encourage growth, depressing those above them if these are the strongest. Take care to occupy the lower part of the space with branches; there will be no difficulty in furnishing the upper portion of the trellis. Shorten the leader to 1 foot for originating another pair of side branches as well as a new leader. If this makes early and strong growth it may be cut back after midsummer, and a second pair of side branches will have time to form by the autumn. This is not always the case, and you must be guided by the vigour of the tree in summer shortening. Espalier trees are commonly too weak at the base, and if the upper tiers of branches grow unduly strong the extremity as well as side shoots may be pinched when about six pairs of leaves are formed, taking a second growth for extension, pinching the others as directed, and subsequently to one leaf as it is made. The sap will then be diverted into the lower branches. It is not a good plan to train the branches horizontally the first year or two, except any that are very strong, for checking exuberance, then the weaker, that are trained more or less upright, will be invigorated, and in time a well-balanced tree will be formed.

Gourds (*F. M. D.*).—The Great Gourd (*Cucurbita maxima*) sometimes produces fruit of an immense size, there being instances on record where they have been grown in this country weighing 212 lbs., and measuring 8 feet in circumference. We have ourselves seen them upwards of 170 lbs. in weight. This and its varieties are always round and depressed, like a much-flattened Orange, with an indentation at the stalk and flower ends, and generally ribbed. The French call it Potiron. It is used in soups. The Pumpkin, or Pompon, called by the French Citrouille, is *C. pepo*. The fruit of this is generally oblong, or inclining to oblong, and very much smaller than the preceding. There are a great number of varieties of it cultivated in gardens, both for ornament and also for culinary use. They are used cut up in soups, in the same way as Turnips are; and they also make very excellent pies, which are much relished by some, the quality depending very much on the mode of cooking. When the fruit is ripe some cut a hole on one side, and, having taken out the seeds, fill the void with sliced Apples, adding a little sugar and spice, and then, having baked the whole, eat it with butter. It may also be used fried in oil or butter. The Squashes so extensively grown in America are *C. melopepo*. They are always flat, and have prominent angles or ribs on their sides; that which is called Turk's Cap, and is variously coloured like a turban, belongs to this species. *C. ovifera* is Vegetable Marrow, now so extensively grown and generally used. Some of the Gourds are entirely covered with large warts, and are called Warted Gourds. They are varieties of *C. verrucosa*, and vary in size and shape, being round, flat, Pear-shaped, and bottle-shaped. The Americans use them, when about half-grown, as a sauce to their meat. The Orange Gourd, which is of the size, shape, and colour of an Orange, is *C. aurantia*, and may also be eaten like the others. When trained up a pole or against a wall, and covered with its beautiful orange fruit, it makes an ornamental plant.

Names of Fruits.—*Notice.*—Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of

approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. (*J. Gray*).—1, Catillac; 2, Beurré Superfin; 4, Beurré Clairgeau; 5, Bergamotte Esperen; 6, Williams' Bon Chrétien. (*C. Page*).—1, Gravenstein; 2, Blenheim Pippin. (*F. A. J. E.*).—A, Bess Pool; B, Ross Nonpareil; C, Cox's Orange Pippin; D, Golden Reinette; F, Lane's Prince Albert. (*Brynkinalt*).—1, Pear-shaped Quince; 2, Golden Reinette; 3, Dumelow's Seedling; 6, Nouveau Poiteau. The others probably local varieties. (*G. M. S.*).—A, Blenheim Pippin; B, Russet Table Pearmain; C, Fearn's Pippin; D, One of the ornamental Crabs. (*Joseph R. Formby*).—1, Maréchal de Cour; 2, Olivier de Serres. (*J. H.*).—Apple Hollandbury; Pear British Queen. The Lord Suffield are very bright, and the Beurré Rance unusually fine. (*W. S.*).—1, Not Irish Pitcher, more like American Mother; 2, Deux Sœurs. (*R. J. H.*).—A valuable and fine Apple which we cannot identify; you should send six fruits to the Fruit Committee of the R.H.S. (*C. W. Duke*).—Cox's Orange Pippin. (*A. Reid, jun.*).—1, Winter Queening; 2, Nonesuch; 3, Minchull Crab. (*F. Williams*).—1 and 2, Ecklinville, the variation due to stock influence; 2, Petworth Nonpareil. (*G. F.*).—The Apple is Hollandbury; the Pear is Comte de Lamy.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*T. H.*).—1, *Viburnum cotinifolium*; 2, *Leycesteria formosa*; 3, *Cryptomeria elegans*; 4, *Retinospora ericoides*; 5, specimen defective, possibly *Polygonum Sieboldi*; 6, *Liatris spicata*. (*E. H., Cottingham*).—1, *Quercus Cerris*, a variety of the Turkey Oak; 2, *Fagus sylvatica laciniata*, the Fern-leaved Beech. (*J. H.*).—1, *Polygonum*, too far gone to name; 2, *Solidago*, var. of *latifolia*; 3, *Veronica spicata* and var. *alba*; 4, *Echinops sphærocephala*; 5, *Dendrobium chrysotoxum*.

COVENT GARDEN MARKET.—OCTOBER 12TH.

MARKET very flat indeed, with prices much depressed.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, half sieve	1	0	3	6	Oranges, per 100	4	0	9	0
Grapes, per lb.	0	6	1	6	Peaches, per dozen	2	0	6	0
Filberts, Kent, per 100 lbs.	75	0	80	0	St. Michael Pines, each ..	3	0	6	0
Lemons, case	15	0	35	0					

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beans, Kidney, per lb. ..	0	2	0	0	Mustard and Cress, punnet	0	2	0	0
Beet, Red, dozen	1	0	0	0	Onions, bunch	0	3	0	5
Carrots, bunch	0	4	0	0	Parsley, dozen bunches ..	2	0	3	0
Cauliflowers, dozen	2	0	3	0	Parsnips, dozen	1	0	0	0
Celery, bundle	1	0	1	3	Potatoes, per cwt.	2	0	5	0
Coleworts, dozen bunches	2	0	4	0	Salsafy, bundle	1	0	1	6
Cucumbers, dozen	1	6	3	6	Scorzoneria, bundle	1	6	0	0
Endive, dozen	1	3	1	6	Seakale, per basket	0	0	0	0
Herbs, bunch	0	3	0	0	Shallots, per lb.	0	3	0	0
Leeks, bunch	0	2	0	0	Spinach, bushel	3	0	3	6
Lettuce, dozen	0	9	1	0	Tomatoes, per lb.	0	2	0	4
Mushrooms, punnet	0	9	1	0	Turnips, bunch	0	3	0	4

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	3	0	6	0	Marguerites, 12 bunches ..	2	0	4	0
Asters, English, doz. bnchs.	3	0	6	0	Mignonette, 12 bunches ..	1	0	3	0
Bouvardias, bunch	0	6	0	9	Orchids, per dozen blooms	3	0	12	0
Carnations, 12 blooms ..	0	6	2	0	Pansies, dozen bunches ..	1	0	2	0
Chrysanthemums, dozen blooms	1	6	2	0	Pelargoniums, 12 bunches	6	0	9	0
Chrysanthemums, dozen bunches	6	0	12	0	Primula (double) 12 sprays	0	6	0	9
Eucharis, dozen	3	0	6	0	Pyrethrum doz. bunches ..	3	0	6	0
Fuchsias, per bunch	0	6	1	0	Roses (indoor), dozen ..	0	9	2	0
Gardenias, per dozen ..	2	0	4	0	" (outdoor), doz. bunch.	6	0	8	0
Geraniums, scarlet, 12 bnchs.	6	0	8	0	" Red, per doz. blooms..	1	0	2	0
Gladioli (various) 12 sprays	1	0	2	0	" Tea, white, dozen ..	1	0	2	0
Lilium longiflorum 12 blooms	3	0	5	0	" Yellow, dozen	2	0	4	0
Lilium (var.) doz. blooms	1	0	3	0	Sunflower, doz. bunches ..	2	0	3	0
Maidenhair Fern, doz. bnchs.	4	0	6	0	Sweet Sultan, doz. bunches	2	0	3	0
					Sweet Peas, dozen bunches	1	0	3	0
					Tuberose, 12 blooms.. ..	0	3	0	6

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (golden) dozen	6	0	12	0	Fuchsia, per dozen	3	0	6	0
Begonia, per dozen	6	0	12	0	Heliotrope, per dozen ..	6	0	9	0
Chrysanthemums, per doz.	6	0	9	0	Hydrangea, per dozen ..	9	0	15	0
" large plants, each	1	0	3	0	Lilium lancifolium	12	0	15	0
Cupressus, large plants, each	2	0	5	0	Lycopodiums, per dozen ..	3	0	4	0
Dracæna terminalis, dozen	18	0	42	0	Marguerite Daisy, dozen ..	6	0	12	0
" viridis, dozen	9	0	24	0	Mignonette, per dozen ..	6	0	12	0
Euonymus, var., dozen ..	6	0	18	0	Myrtles, dozen	6	0	9	0
Evergreens, in var., dozen	6	0	24	0	Palms, in var., each	1	0	15	0
Ferns, in variety, dozen ..	4	0	18	0	" (specimens)	21	0	63	0
" (small) per hundred	6	0	8	0	Pelargoniums, scarlet, doz.	6	0	9	0
Ficus elastica, each	1	6	10	6	" per dozen	6	0	12	0
Foliage plants, var., each..	2	0	10	0	Solanums, per dozen	9	0	12	0



TOWN REFUSE.

A SCHEME of the Corporation of Manchester to purchase Rampton Manor Estate, North Notts, for £60,000, as a receptacle annually of 20,000 tons of the city's refuse, composed of fecal matter, ashes, stable manure, and the detritus of the roads, has met with quite the usual amount of opposition. The only justifiable objection is the possibility of the spread of disease germs in districts through which the trucks laden with the refuse pass, and of the contamination of the Trent by the drainage water from land dressed with the refuse. Surely, the first can be met by the use of proper trucks, and in the second the action of soil as a deodoriser appears to have been lost sight of—at any rate, by opponents of the scheme. Upon the face of it, we might say that with the advanced stage of scientific knowledge, and the host of learned professors among us, means ought to be forthcoming to prevent any possibility of harm. But the Inspector of the Local Government Board and others engaged in the recent court of inquiry into the scheme, appear to hold the opinion of scientific men but lightly. Their view of the matter is evidently just the popular one of getting rid of filth at any cost, without thought of its value as a fertiliser. They ignore the natural law of give-and-take, and of the economical utilisation of waste matter.

In doing so they have no excuse, for it has been emphatically pointed out to them that this huge mass of refuse is a veritable gold mine of plant food of soil fertility. Said a correspondent during the inquiry, "Richness is thrust upon the Rampton estate and spurned. An area of low rates might be converted into high rates. Given proper cultivation, town refuse would make an Eden of this unfortunate poor clay land. Not considering the chemical advantage, the ashes work mechanically in converting stubborn, adhesive clay into friable loam. The Manchester Corporation might turn many honest pennies by buying poor estates at £20 per acre, manure them ten years with their refuse, and sell them for £40 per acre, and then again seek fresh fields and pastures poor." Quite true, every word of it, and yet, strange to say, instead of earnest inquiry and strenuous effort to turn this fertiliser and opener up of the starved soil to account, the evidence of those who wish to prevent it being used, from unreasonable fears of harm to the people, is listened to, and it unfortunately appears to have sufficient weight to possibly defeat the scheme.

Nor is this because other evidence which we know to be entirely reliable was not forthcoming. Dr. Voelcker, consulting chemist of the Royal Agricultural Society, has examined the soil of the Rampton estate, which he described as being of three kinds—stiff, cold, red, marly clay, sandy clay, and, on the low-lying part, river silt and sand. He had no doubt the 1100 acres of arable land would take 20,000 tons of the manure annually, and he thought there could be no limit to the capacity of such land to take 20 tons per acre annually. He pointed out that from the composition of the manure it could be manipulated with forks, it was in no sense liquid; no chemical change would take place in it in transit, and its manurial and mechanical action would be highly beneficial to the soil. If the manure contained impurities the soil would act as a disinfectant. With such a supply of manure there could be no necessity for fallows. "My opinion," said Dr. Voelcker, "about fallow is that it is a waste; there is no reason for fallow at all." "Well, now," said the examiner, "looking to the character of this land and to the quantity and character of this manure, do you see any reason

why the operation should not be a successful farming operation?" "I see no reason, and I think it is the very thing the land wants," was the answer. We may mention that Dr. Voelcker gave his sensible evidence after some "experienced agriculturists" had said in evidence that the land must be fallow, and that it would not take the quantity of manure proposed to be put upon it. He said plainly that they were wrong; we are glad that he did so, and wonder at any men accustomed to the cultivation of farm crops taking part in a movement to keep such manure off the land.

Talk of depressed agriculturists! why, it seems impossible to help them. Here is the Corporation of Manchester with an annual output of 67,000 tons of a manurial substance of the very best kind for storing soil with fertility, and opening it up for air circulation and prompt water filtration; yet, instead of the neighbouring farmers combining to obtain a regular and full supply of it, some of them are found actually to come forward and say a fair dressing of it would be hurtful. Are these the men who cannot make Lancashire farms answer, and are coming south to try their hands on Essex farms? Surely they are incompetent to deal with the Essex clays, for they are clearly ignorant of the first principles of agriculture, which in addition to soil drainage, insists upon thorough mechanical division and a constant replenishment of fertility—plant food in the soil in the form of manure.

WORK ON THE HOME FARM.

Unsettled weather has much hindered work of all kind. There is still much corn out south of the Trent, some of it yet unreaped. This is the case in one or two instances even in Leicestershire, and it is still more so in Derbyshire and Nottinghamshire. Beans are a very late crop this year, and also very unequal in bulk. In the south we have seen some very inferior fields of Beans, but in the midlands there are some excellent crops. Roots are generally good; Mangolds have now about done all the good that is possible, and the sooner the crop is off the land the better in every way. Though much rain has fallen there have been frequent short spells of fair weather, quite sufficient to dry up the surface and render carting an easy matter. Get the Mangold stored and protected from frost at once; the roots will then be safe, the land will be cleared for ploughing, the work will be done briskly and well, and the ploughs got upon the land at once.

These hints really bear upon early autumn tillage. If this had full attention at once as the stubbles were cleared corn sowing would be forward, so would ploughing generally, and land under late crops could be ploughed at once as we have suggested. This of course implies always being forward with farm work instead of behindhand, as is so generally the case.

Let all corn stacks be well thatched and trimmed; nothing can be worse than to leave stacks of Barley and Oats with ears of corn exposed on the sides. This is slovenly and wasteful, and in Barley tends to spoil the sample, for corn so exposed becomes much stained, is dark in colour, and though there is not much of it there is frequently enough to spoil the sample. It is just a trifling matter of detail worthy of attention.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.	
1892. October.		Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.		On Grass.
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.		Inchs.
Sunday	.. 2	29.486	46.4	45.8	N.E.	52.6	49.6	37.2	69.1	33.6	0.140
Monday	.. 3	29.721	47.6	45.4	W.	51.2	58.2	41.0	98.1	37.4	0.018
Tuesday	.. 4	29.712	49.2	46.1	W.	50.9	58.0	41.3	84.4	35.3	0.451
Wednesday	5	29.409	47.1	46.7	N.W.	50.6	55.4	45.4	83.1	45.2	—
Thursday	.. 6	29.396	47.2	46.9	S.E.	50.1	51.9	39.0	57.4	33.2	0.067
Friday	.. 7	29.363	48.6	47.4	S.W.	50.0	56.3	44.3	78.0	40.1	0.056
Saturday	.. 8	29.539	48.1	45.9	W.	49.8	54.8	40.8	91.2	36.3	0.180
		29.518	47.7	46.3		50.7	54.9	41.3	80.2	37.3	0.912

REMARKS.

- 2nd.—Almost continuous rain from 7.30 A.M. to 5 P.M.; cloudy night.
 3rd.—Bright sunshine in morning, spots of rain about noon, and occasionally in afternoon, with sunshine between.
 4th.—Sunny morning, generally cloudy in afternoon, steady rain from 4 P.M. to 8 P.M., and showery after.
 5th.—Overcast and rainy early; damp morning; bright sunshine after 1 P.M.
 6th.—Overcast morning; occasional spots of rain after 11 A.M., and slight showers in evening.
 7th.—Cloudy early; frequently sunny in morning and after 3 P.M.; heavy showers from 1.30 to 2.30 P.M.
 8th.—Fair, with occasional sunshine, but a shower at noon; bright night.
 Another wet week, and considerably colder than the previous one.—G. J. SYMONS.



THE FRUIT SUPPLY AND PROSPECTS.

WE are progressing—steadily but surely progressing—in the supply of home-grown fruit, and the public taste is advancing in the right direction also. A daily paper recently stated that “one of the most pleasant changes in the aspect of London of late years is in the striking multiplication of fruiterers’ shops. A taste for fruit, and a conviction not only of its wholesomeness but of its desirability as a part of the daily food has been rapidly spreading, and all efforts to promote the cultivation of fruit deserve the highest commendation.” Those remarks have reference at this season mainly to Apples—undeniably the most substantial and serviceable of all our hardy fruits, though the Pear supply cannot be ignored.

Not only are fruiterers’ shops increasing, but what is not less important is the marked improvement in the produce displayed. The different emporiums where the best samples obtainable are presented have never been so well furnished before as they have been of late, and are now, with British Apples—not grown abroad, but at home. This is not the case in London alone, but in most of the best shops in provincial cities and towns. It is not less true, however, that by far too many and too large consignments of inferior “stuff” are forced on the markets; but the days of this untempting or almost repulsive apology for fruit are numbered. Just as well grown high-class fruit increases in bulk, so must the inferior be elbowed out of the market, for those who send it in will find no returns for their ventures in a very few years; indeed not a few persons are finding this out now, and naturally grumble accordingly. They grumble at free imports, grumble at railway charges, grumble at agents’ commission, grumble at the advice given in the press to plant trees, and so on; in fact, find fault with everything and everybody, but leave the greatest evil of all untouched—their own negligent methods and slovenly ways.

Granted that there is room for improvement in transit charges, there is hope that railway directors will be compelled to mend their ways and develop trade; and admitting the fact that there are unprincipled sharpers among the great army of commission agents, yet among fruit brokers there is no lack of honourable men who conduct their business in all respects as fairly as the best and most successful traders in other commodities conduct theirs. Without saying anything against the efforts that are made to bring producers and consumers of fruit closer together, but, on the contrary, rejoicing in whatever is accomplished in this direction, we suspect the fact will have to be recognised that the enormous bulk of produce grown in the country for meeting the demands of the million in towns will have to be distributed through the channels of intermediaries, just as bread and butter, tea and sugar, jams and pickles, are through the agency of shopkeepers. Competition compels these to reduce profits for increasing trade, and those dealers in fruit who act on the same principles of moderate commission charges, just methods, and prompt payments are developing their trade enormously, and profiting accordingly, while not a thought is entertained of their “fleecing” the grower. This upright dealing and its manifest advantages will compel others to adopt the same methods, or they will lose their custom, and eventually be driven from the markets like bad Apples.

Growers of a few hundredweights or even tons of Apples can no more deliver them to distant consumers than the owners of coal mines can distribute their black diamonds among the homes of the people; but no doubt something can and will be done in the disposal of fruit by local arrangements when the number of small cultivators and the high quality of their wares justify the effort. Apart from the certain increase in jam and bottling manufactories for taking the soft fruits of districts and distributing them all over the civilised world, as we ought to do with our natural advantages for production and preparation, local combination will be formed on the basis of Mr. Ivarts’ scheme in Cambridgeshire. He added fruit growing to his ordinary farming operations, and finding the change good extended his plantations. Then he took out a broker’s licence for selling his own fruit in the great emporium Stratford Market, not of course objecting to sell the fruit of others. Eventually he arranged to collect all the fruit of small growers in his locality at 2d. a bushel, or something of that kind, including its conveyance three or four miles to the station, send it up with his own goods at truck rates, and sell it on commission, giving to each grower a statement of the full amount realised and his charges, both clearly shown. This method proved of mutual advantage. It would be impossible that the several small cultivators could dispose of their crops anything like so well by independent action, if at all, with profit. The plan has answered so well that, though the district is flat and bleak, fruit plantations are seen on every hand, and small home plots filled with trees and bushes. Cottenham is, so to say, a parish of small holders, and not many villages can boast better homes of workers and present a cleaner and more general well-to-do appearance. Mr. Bull, one of the most intelligent fruit growers there, has referred to the district in these columns, and he speaks in tones of gladness of what fruit-growing has done for the community among which he resides. The wholesale condemnation of intermediaries for the disposal of fruit and garden produce is a fashionable fad. They are a necessity, and systems should be established whereby they may become helpful aids, working on recognised lines, the whole of their transactions being open and above board, so that the growers of fruit know exactly what is being done—the amounts realised, and the charges incurred in its disposal.

There is no doubt whatever that the market standard of home-grown Apples has been raised, and those who send in the best produce, honestly packed and attractively presented, have no difficulty in disposing of their crops at remunerative prices. Such men do not spend their time in grumbling at low prices for mixed samples, mostly bad, but in working for good ones, which alone can give a satisfactory return. Nor can the finest of Apples be had in any other way than planting young trees of wisely chosen varieties in well prepared soil, and giving them intelligent attention. Regular and systematic planting will have to be pursued in the future if Britain is to hold its own in Apple production. Neither salesmen nor consumers ask or care where fruit is grown, they simply want and will have the goods which are considered the best worth the money, and the best Apples in the market now are home-grown.

The season of late has in most parts of the country been favourable to young trees for planting. A bright September promoted maturation, October rains (too heavy and prolonged in some districts) have moistened the ground, and the “plants,” as they are called, ought to “take up well” when the time comes. Let the whole subject of planting be promptly considered and the line of action determined; also let orders be given as soon as possible. If the early bird catches the worm in anything it is in the ordering of trees, for in no other way can early planting, which is so desirable, be ensured. Avoid “cheap bargains,” large trees with few roots, and let market bundles alone. The trees may or may not be true to name, and may or may not grow fairly well; but the risk is too great to hazard. The safe

course, in the end the cheapest and always the best, is to purchase from growers of high and acknowledged reputation in the fruit tree-raising centres of the United Kingdom.

JOTTINGS ABOUT FLOWER BEDS.

As each bedding season draws to a close it is well to take note of the behaviour of the various subjects used, to see how far the climatic conditions peculiar to each summer influence the growth and effectiveness of them; also to record any arrangements found to be specially attractive. The past season has on the whole been a fairly good one for the inmates of the flower garden, notwithstanding the fact that we experienced several slight frosts in June after the greater part of bedding out was completed. By the middle of July the beds were well filled, and in many instances in full beauty. This was especially noticeable when close planting had been adopted. There can, I think, be no doubt about the wisdom of this practice, considering how short and uncertain our summers are. Take the past season as an example. Those who were unable through lack of plants to plant closely have had to be content with beds which were in full beauty for only a very brief period, for although the autumn frosts have not, at the time of writing, yet played havoc among them, the weather has been so dull and sunless, with occasional heavy rains, that flowering plants of many descriptions have striven in vain to show their charms.

Our beds of Zonal Pelargoniums were this season, for special reasons, planted unusually thick, and we have many times since been glad of it. They not only produced a mass of flower early in the season while the weather was favourable, but the plan also enabled us to obtain good cuttings without spoiling the appearance of the beds. I am strongly in favour of using numbers of old plants. They are easily wintered, flower earlier and more profusely than young ones; and if pegged down at planting time quickly form an even regular bed. John Gibbons and Vesuvius are, I believe, the best scarlet bedders grown, and I know of no crimson one to equal Henry Jacoby. The trio are so good that no one should be disappointed if they depend entirely upon them to supply the two colours named. I have this year discarded Mr. Atkinson on account of its being a very strong grower.

Among Ivy-leaved Pelargoniums, Madame Crousse and Souvenir de Charles Turner have again proved great favourites with all who have seen them. Those who have not yet tried these fine plants as summer bedders should make a point of doing so next year, for I feel sure they will be delighted with them. The last-named does not flower quite so freely as Madame Crousse, but this is amply compensated for by the fine bold trusses and very large pips produced. Another great recommendation for Ivy-leaved Pelargoniums is that young plants can be easily preserved during the winter, as it is very rare indeed that they suffer from damp. Almost every cutting inserted may be depended upon to grow, while long leggy plants which have become useless for pot culture may be turned to a good account by planting them in beds, and pegging the shoots in any direction required. Marguerites associate effectively with these plants if dotted at intervals of 4 or 5 feet along the centre of oblong beds, filling in the groundwork with Ivy-leaved Pelargoniums, and providing a suitable edging. Mrs. Perry Pelargonium or Pyrethrum Golden Feather each answer the purpose admirably.

Although at times the weather experienced during the past summer has been dry and hot, yet Calceolarias have throughout done remarkably well. This convinces me that the so-called disease which causes Calceolarias to die off may be easily combated if the young plants are grown sturdily throughout the winter and planted out early in rich well prepared soil.

Tuberous Begonias are useful bedding plants, which we cannot well dispense with. To grow them well, however, they must have plenty of water in hot weather or the flowers drop very quickly. When carpeted with Sedums the effect is particularly good, and the flowers are kept clean, but I find the Begonias thrive much better when a bed is entirely devoted to them, and for that reason cannot recommend the Sedums to be planted among them.

Viola Countess of Hopetown is I consider the finest white flowering plant grown, either for spring or summer bedding. Four beds of this variety in the flower garden here were planted in November last, and to-day (Sept. 24th) the plants are still flowering freely. The growth made is much shorter-jointed than is the case with most other varieties, consequently they flower for a longer period before requiring to be cut down. The majority of other Violas seemed to have grown and flowered to the extremity of their shoots by the middle of August; when they have arrived at this stage only a few straggling flowers will afterwards be produced on the old shoots. They should therefore be cut down, which will have the effect of causing the young shoots springing from the centre of the plants to grow quickly. These will in due time flower freely,

though only in exceptionally mild seasons this will not take place till the spring months.

The beds they occupy may, however, be quickly made gay again with the aid of Asters if a sufficient stock has been prepared for the purpose. A few beds I have this season treated in the following way have throughout September been very attractive. A good batch of Asters were pricked out in June 6 inches apart, and as soon as the Violas were cut down they were lifted, divided, and planted in the reserve garden. The beds were then deeply dug and the Asters lifted with a good ball of earth and planted in the prepared beds; a thorough watering was then given, and an occasional one when necessary afterwards. These beds have proved quite an attraction. Asters are very accommodating plants and bear transplanting wonderfully well; in fact, they may be safely lifted when the flower buds are beginning to burst, and if the work is carefully done the check experienced will be scarcely perceptible.—H. DUNKIN, *Castle Gardens, Warwick.*

DISCUSSION ON APPLES.

APPLE BEAUTY OF HANTS.

As "E. M." has referred to this variety I should like to state what I know of its origin. Some years since, when in the gardens of Glen Eyre, Southampton, Mr. Stewart, the gardener, drew my attention to a tree heavily laden with fine fruits of what seemed to be a superior and much more conical form of Blenheim Pippin. Trees of the latter growing close by gave very diverse products in growth and fruit. The tree was regarded as a Blenheim seedling raised in a nursery near Southampton, and from whence it was obtained. The Apples were so fine, rich coloured, and distinctly conical—quite as much so as King of the Pippins—that I asked Mr. Stewart to send a sample to the Fruit Committee of the R.H.S., which he did, and we gave it the appellation of Beauty of Hants. The fruits received, I believe, a first-class certificate, and the variety was put into commerce from Heatherwell, Bagshot. It may be, perhaps, that everyone has not got the real thing, or that under ordinary culture after working it has been found to be but a variety of the Blenheim.—A. D.

WALTHAM ABBEY SEEDLING.

WHEN I went to reside at the seed grounds, Bedfont, Middlesex, I found there several trees of Apples, each perhaps some twenty years planted, of the Ribston Pippin, Alfriston, Wellington, Cockle's Pippin, and Waltham Abbey Seedling. The soil is a very stiff clay. Alfriston soon died, as the points of the shoots refused to ripen. So also have those of Ribston Pippin, although the tree still fruits moderately. Cockle's Pippin has always been a stunted tree, and Wellington, for the past ten years, has done badly, and rarely borne a respectable crop. But the Waltham Abbey Seedling has never changed, except to grow somewhat larger. There never has been a year since 1871, when it first came under my notice, that the tree has not produced fruit more or less in quantity. It has never shown any evidence of canker or decay. The head of a broad, yet compact, drooping character, and none too high. I regard this Apple as one of the very best to recommend for cottagers as a regular cropping kitchen variety, for the fruit always cooks admirably, and keeps well till March.—A. D.

VARIETIES FOR CLAY SOILS.

KESWICK CODLIN is an abundant bearer every other season with me, does not make much growth, and generally forms plenty of fruit buds. Lord Suffield is similar to the above as to growth and bearing qualities, but cankers badly. Scarlet Admirable, Alexander, Hoary Morning, and Nonesuch are sure bearers here every year if they escape injury from frosts. Blenheim Orange, Warner's King, and Yorkshire Greening rarely fail to produce a heavy crop of fine handsome fruit. The last-named grows very straggly, but the fruit will keep in good condition till the following May. Warner's King is a particularly clean grower, and the fruit always very large.

Regarding dessert varieties, King of the Pippins, Cox's Orange Pippin, Cockle's Pippin, Nonpareil, and Quarrenden are sure bearers, especially the two first named varieties. The trees are young, and make clean, healthy growth. The fruit had to be severely thinned early in the season, and the branches supported later to prevent breakage through the weight of fruit which they carried. Quarrenden has a very heavy crop in alternate years. The trees, which are all standards and bushes, are never pruned hard back, but where the boughs appear to be at all crowded some of them are sawn out close to the main branches, and the wounds finished with a sharp knife; a few of the longest shoots left have the ends cut off. The fruit buds form on nearly the full length of the branches, which are invariably laden with fruit like "ropes of Onions." Nearly all the varieties of Apples grown here have a very rich

colour. I think the heavy clay soil has some influence upon them in regard to this. For this district I can confidently recommend the varieties named to planters, and if the trees are planted on the level ground, and moulded over instead of being put deep down into water pits where clay soils have to be dealt with, canker will not be so troublesome.—G. GARNER, *Amberwood, Christchurch.*

CELLINI.

THIS variety is a case in point of how some sorts vary in different localities. Mr. Brotherston in his interesting notes, p. 287, says "Stirling Castle and Cellini for heavy soils only." Now with me in a heavy soil this variety is quite the worst we have; both a standard and bush tree of it have never given us a quarter of a crop during the last twelve years they have been planted, although this season there is more fruit than at any time previous. I have heard it said that this Apple will not succeed in the extreme south, it is more of a cooler district sort. How far this may be true I cannot say, but hereabouts I have not seen a tree which carried a full crop, while in Yorkshire it used to bear abundantly. Certainly where it does succeed it is an excellent variety. Not only are the trees shy in bearing, but they canker very badly in spite of repeated liftings and the addition of new soil about the roots.—E. M.

POTTS' SEEDLING.

I FIND this variety does not succeed here in our soil; the fruit is plentifully borne, but the skin is much specked and spotted, the foliage is too pale in colour. Perhaps by replanting this variety on a mound I shall succeed better with it. At Benham Park, Newbury, there is a very fine half-standard tree of it growing in the frame ground, apparently without any particular attention to its roots, and it crops plentifully, the fruit being of excellent quality.—E. M.

BAUMANN'S RED REINETTE.

FROM the appearance of the fruit of this variety I should say this is likely to make a splendid market Apple for the winter supply. The colour of the fruit quite equals Worcester Pearmain, and that is greatly in its favour, this being by far the most important point to study in market Apples. The size of the fruit appears to be what market people require; it is not the largest that are the most in demand, but those which are the most handsome. The habit of growth is upright, another point in its favour. Presumably this Apple crops freely in ordinary seasons.—E. M.

GOLDEN SPIRE.

THIS is a capital kitchen Apple to grow where space is somewhat limited, or in any garden where a full crop of fruit is needed about the middle of September. This Apple is much longer than it is wide, hence its name. The colour is an intense golden colour, more so than any other early variety I know. The growth of the tree is rather weak, necessitating supports being placed to the branches when carrying a heavy crop of fruit.—E. M.

FUNCTIONS (AND WEIGHT) OF VINE LEAVES.

MOST assuredly a smile, amounting very probably to a broad grin, overspread my countenance on reading what Mr. John Swan had to say on the question of stopping the lateral growths of Vines. Mr. Dunkin will have to search far and wide to find anything half so effective in the shape of an instance of what has been done by an advocate of the practice of leaving several leaves beyond the bunches. It is my firm belief that a few extra well-developed leaves are of more importance to the well-doing of the Vines, both above and below ground, than three times the quantity of crowded, thin, and otherwise imperfectly formed, or even moderately strong foliage. Sub-lateral growths I value but little, as they can never do the work of the thick, leathery, primary leaves, such as Mr. Swan appears to have on his remarkably heavy cropped Vines. There need be no apprehensions of failure in the case of the latter, at any rate not till a distinct warning in the form of weakly foliage is given.

Mr. Dunkin derives the grounds for his arguments from various sources, and he is quite welcome to adopt all and sundry that he can so find, a roving commission being accorded him. He quotes what has come under his notice in a few cases, but directly I turn the tables on him I am told that my reference is exceptional and inglorious. To a certain extent it is inglorious to make a point at other people's expense, and I should not have said so much as I did had there been the slightest possibility of my remarks hurting the feelings of or doing an injury to the individual most concerned. My contention was that a comparatively unrestricted lateral growth did not prevent a great falling off in the weight and value of the crops, but I knew too much about the whole matter to even insinuate that it was wholly to blame for the failure. At the

same time references to failures had for obvious reasons better be left out of this discussion, and for the future I will confine my remarks wholly to what is taking or has taken place under my own management.

What should be adopted in the case of Vines in perfect health need not nor ought to be the same as when they require renovation; but Mr. Dunkin is confounding the one with the other. When I first undertook the charge of the old vineries here the Vines were in a wretched plight, and one of the renovating measures practised with a fair amount of success was the laying in of a number of young rods, a few of these being laid in every summer for years past. Mr. Dunkin remembers seeing some of these, and jumps at the conclusion that my practice is very different to what I advocate. What little success I have met with in horticulture has been largely due to the avoidance of any hard and fast lines, and also because I have profited by many blunders made by myself and others. This season I stopped some laterals at several leaves beyond the bunches, very many more at the second leaf, and sufficient to test the soundness of previously formed views as to the effect of close stopping or otherwise. Not till Mr. Dunkin has done the same is he fully competent to prove that what I have previously stated is altogether wrong, and no amount of "beating about the bush" will meet the case. The house of late Grapes I referred to on page 304 as being in extra good condition at the end of ten years has been of an experimental character from beginning to end, and chapters might, in fact, have been written on what has been done. Never once were the Vines allowed to form any superfluous growth, and never once have they failed to do well. This season the crops are heavy, the bunches fairly large, and the colour has been termed "perfect" by several good judges. As yet very few bunches have been cut, and I shall be only too pleased to show the rest to Mr. Dunkin or any other reader of the *Journal of Horticulture*. All the rods are clothed with lateral growths down to the ground, and what is not often seen bunches are hanging within 6 inches of the border. In all probability the bunch of Gros Colman on a hard-stopped lateral, mentioned on page 304, will be the best in the house, and I hope it will find its way to Mr. Dunkin's county next month. It may be thought that the border in which those Vines to which I point with so much boastful pride was exceptionally well made; but I can safely say that it was extremely cheap, the material consisting of clayey loam cut from a bank in a poor meadow and the top spit of our garden soil in equal quantities, mortar rubbish and the residue of a garden "smother" being freely added. Bone manure has since been used with the top-dressing material, but none was mixed with the original compost. To all appearances those Vines are improving in health and vigour, and a very great change will have to come over them also in my ideas before any superfluous growths or leaves will be left.

There is no good reason, that I can see, why my old friend Mr. Bardney should not fully state his views on the subject under discussion, whether these be in accordance with mine or not; and now the evenings are longer, and gardeners have more leisure time, it is to be hoped more of them will give their experience. It is not to be expected that we shall all agree in the matter, but a good-tempered well-conducted discussion not unfrequently brings out instructive comments, that otherwise would not appear in print. Why I did not state the "something else" necessary to ensure perfect colouring of Grapes is because I have already frequently done so in these pages, and I will now merely add that my practice corresponds closely, as far as free ventilation is concerned, with that very lucidly described on page 305. Mr. Bardney has well pointed out the secret of success in colouring black Grapes at any rate, and that too whether the Vines are hard or only lightly stopped.—W. IGGULDEN.

It is not a pleasant task to demolish the cause that brings a "happy smile," but I am afraid Mr. Iggulden's newly found cause for happiness will be as fleeting as it has been beaming; at any rate, I think there is no difficulty in showing that his would-be supporter from across the border has in reality weakened the cause he intended to support. I thoroughly agree with Mr. Swan that "good leafage is of primary importance, and that the higher the development of foliage the more perfect will be the elaboration of the sap and its assimilation by the Vine." But when it comes to the question of how to produce the type of foliage we both believe in, I will have the temerity to show him how such powerful elaborators of sap can be grown by another and a better way than that which he points out on page 326, a way by which similar leaves to those which he forwarded to the Editor can be grown, not for a few years only, but for ten, twenty—nay, thirty years.

On the day that I received the *Journal* containing Mr. Swan's note I forwarded to 171, Fleet Street, a few leaves taken from Vines growing in the gardens here, the heaviest leaf weighing 1½ oz. and each of the others exceeded in weight those sent from

Mansfield. These were cut from Vines fifteen years old, the variety being Black Hamburgh. The Vines in this house and two others in the same range have been vastly improved in a few seasons by growing plenty of foliage, in many instances there being four and five leaves beyond the bunch, lateral growth also being allowed to extend freely. No liquid manure nor artificial fertilisers have been applied during the last two years, but now that plenty of active roots have been made feeding will in the future have attention. The whole of these Vines have this year carried a crop which many cultivators would think they could not possibly colour. Neither would they have done so if the shoots had been stopped in the way Messrs. Iggulden and Swan advise. Several of the Vines in question are now carrying 50 lbs. of perfectly black Grapes, and in one case I believe the weight will reach nearer 60 than 50. The heaviest bunch on this Vine weighs about 6 lbs.

The weight of crop produced on the young Vines under Mr. Swan's charge is a really good cultural achievement, provided the Grapes were well coloured. That is the vital point. It is all very well to state what has been done with young Vines when closely stopped for a few years. The boundless vigour of youth enables them to build up strength and produce good returns, not because of, but in spite of, unnatural suppression; but let this close stopping be continued for ten years, then what is the result? Are not Vines in a feeble state incapable of perfecting anything like the weight of crop they should do? Another point which Mr. Swan seems to have overlooked is that up to the present time root action, and consequently good leaf production, has been fully maintained by the continual growth of the leaders of his Vines. This has more than compensated for the close stopping of the laterals. Thoughtful readers will see at once that he weakens rather than strengthens his cause by drawing comparisons between Vines, Cucumbers, and Melons. There is so little analogy between them; the last two being grown as annuals their permanent welfare has not to be considered, and in the case of Cucumbers old growths are being continually cut away and young ones laid in.

Mr. Swan must have been content with very poor crops of Cucumbers, if by close stopping he can obtain "double the quantity of fruit off a given space." Any individual who can show so simple a way to double the produce, and therefore at least treble the profit on the growth of this popular edible, confers a real benefit upon the entire community, a benefit which should establish his fame at once, and quickly lead him on to fortune, if the tempting bait he holds before our eyes does not vanish like a bubble and leave no trace behind. In regard to Melons I am well aware that the fruits will swell to a large size if no growth is left beyond it, but the practice is a thoroughly bad one to follow as a regular detail of culture. Numbers of plants carrying fine crops of Melons utterly collapse every year just as the fruit begins colouring, for the simple reason that root-action is sluggish on account of persistent stopping, and even when they manage to ripen their fruit after a struggle the really fine flavour and deep flesh of a well-grown Melon are absent. At no stage of a Melon's growth should the whole of the spring shoots be stopped. The extension system of growing Melons may not be so well adapted to the requirements of gardens generally as that usually practised, but Mr. Iggulden is well aware of the great superiority in the flavour and the depth of flesh obtained in Melons cut from plants which give a succession of fruit throughout the season.

In conclusion I will express the firm conviction that the surest way to induce Mr. Swan to join the ranks of those who believe in the extension system of Vine growing, is to ask him to persistently follow the close stopping system with his Vines which have begun so well. In the course of a few years he will then have to do one of three things—be content with inferior Grapes, allow greater freedom of growth, or root out the Vines and plant fresh ones.—H. DUNKIN.

[The five leaves sent by Mr. Dunkin weighed $6\frac{1}{2}$ ozs., the heaviest turning the scale at $1\frac{1}{2}$ oz. This is the heaviest Vine leaf we have yet received. The leaf stalks were also slightly thicker than those of Mr. Swan. The increase in weight of the leaves from Warwick Castle was due to their greater expanse—14 inches against 12—and they were not quite so thick and dark in colour as from the young Vines. Their weight, however, indicates their substance and power. They are wonderful leaves as perfected by old Vines and undoubtedly good management.]

EDUCATION IN GARDENING.

EARLY in the present year we announced our intention of presenting a limited number of large silver medals to gardeners for the best essay on gardening subjects proposed to them through the secretaries of the respective horticultural or mutual improve-

ment societies of which they are members. The results have been very satisfactory. Two of the essays sent in were so good that we unhesitatingly awarded medals for both of them. On opening the envelopes containing the names of the writers one of them proved to be Mr. Thomas Garnett, The Gardens, St. John's, Wakefield, and the other Mr. E. D. Smith, Walkley, Sheffield. We have pleasure in publishing the photograph of Mr. Garnett as the senior essayist. He has long taken interest in educational matters, and has read papers before the Wakefield Paxton Society, of which he is co secretary with Mr. Fallas. Mr. Garnett is a close student, an excellent practical gardener, and a worthy and respected man. We publish this week the first instalment of his essay on "Education in Gardening," and on its completion that written by Mr. Smith will follow. The latter essayist is a comparatively young man, and may be expected to contribute worthily to the literature of gardening.

MR. GARNETT'S ESSAY.

BRITISH horticulture is what our best practitioners have made it, a subject worthy of our pride in it. The practical work and its splendid results, as exemplified in our best gardening establishments, apparently leaves little room for any better system of education and training of gardeners; but in this age of educational progress we cannot afford to remain stationary. Degrees of efficiency amongst individuals are inevitable, and we are compelled to admit that there are many gardeners who do not take special interest in the profession. When once they have been taught to do the work to their way of thinking nothing further is required. This is simply practical work, which makes no progress in any direction. Gardeners and gardening are bound together so that when any improvement is made in either both must progress. It is the inert unleavened mass that requires moving, and we shall have to trust to the educational lever on the coming generation of gardeners to push horticulture on to the higher level to which it is capable of attaining.

The open road to this progress lies in the direction of an education, blending together the best possible acquaintance of the present with the more exact knowledge of those laws which govern plant life. Call it science or call it common sense. The progress and developments made within the last few years in plant physiology affecting the very spirit of gardening opens out wide fields of advancement in methods and results, which it would be folly to ignore. To the general present-day gardener the word "science" is a well-known bugbear. But this arises from hasty conclusions on the relationship of practice to theory. It goes without cavil that as scientific, or what is understood by gardeners as theoretic knowledge, becomes disseminated and acted upon, it gradually passes over into the region of practice. It is utter folly to boast of practical knowledge and yet to persistently ignore the fact that it is neither more nor less than proven theory emanating from scientific deductions.

That the general principles of gardening emanating from this source are on a sound basis is abundantly proven by the high state of perfection to which gardening has attained. We may therefore safely take it for a rule that our most successful gardeners are those who consciously or unconsciously are working out in their everyday practice the laws which govern plant life, as interpreted by our eminent plant physiologists. Who, knowing anything of this subject, dare predict the results which may be achieved in the future when the general body of gardeners becomes leavened with this knowledge, supplemented by the present and improved methods accruing, of imparting information to each other? In making these propositions we know there is a limit to the acquirement of such knowledge by the most persevering students, but to do so and apply the lessons to be derived from it does not require, as many seem to think, that the gardener shall become a walking encyclopædia of all the sciences. The wave of public opinion on elementary and technical education which has swept like a tide over the country, culminating in the passing of the last Education Act, which, supplemented by liberal grants from County Councils and other authorities, the employment of lecturers on "Horticultural subjects," and now the inclusion of "Horticulture" on a wide and comprehensive basis as one of the specific subjects in the last issued "Government Education Code," is broad and sound enough to be used as the stepping stone to the higher education needed to this end. We are now on the threshold of a new era in horticultural progress, and thus any discussion throwing light upon the subject at this juncture ought to prove of especial value.

SUBJECTS TO STUDY.

Hitherto the working class population has been the natural and general source of the supply of gardeners. It must be admitted, therefore, that those drawn from this source are likely to possess in a superior degree the requisite characteristics best meeting and suiting

the special circumstances connected with the environment of the gardener's calling. We are under these circumstances constrained to base any scheme of education and training of gardeners adaptable to the greatest number, on the assumption that what has proved to be the rule in this respect in the past will still obtain in the future.

It is under exceptional circumstances that a lad leaves school before he reaches his fourteenth birthday. If of medium intelligence, under ordinary tuition he will be capable of passing his fifth standard examination at eleven years of age, when he is at liberty to take up as part of his studies "specific subjects." His education so far will have covered the elements of reading, elocution, grammar, writing, composition, drawing, arithmetic up to simple proportion and simple interest, geography, including causes affecting climate, and history. Coming now directly to the "specific subjects" allowed by the Education Department, we have to consider those which have a direct bearing on his future studies and particular calling in life, attempting to indicate the easiest gradient by which he may reach the goal for which he is striving. The new subject, "Horticulture," as a matter of course, in importance must take precedence of the others. As yet no class book on the subject has been published, and we are somewhat in the dark as to what extent the teaching of the subject will carry him, but this book is bound to follow. Taking the Education Department syllabus as our guide it carries on the face of it sufficient to indicate a fair elementary course of plant physiology. It so fully covers the subjects to study that we cannot do better than quote it in extenso.

HORTICULTURE.—PLANT LIFE.

"FIRST STAGE.—Seeds, nature of, germination, requirements, water, heat, air.

"Soils.—Nature and composition; what they do, and how. What helps, and what hinders them.

"Roots.—Nature and functions; branches, fibrils, and root hairs.

"Stems and Branches.—Their nature, work, and uses; helps and hindrances.

"Leaves.—What they are, what they do; helps and hindrances.

"Buds and Tubers.—Leaf buds, flower buds, and tubers.

"Growth.—Increase in size, and changes of composition; formation and storage of food materials.

"Flowers.—Their component parts; what they do.

"Fruit.—Changes and development; ripening. Forms and varieties of—as Apple, Strawberry, Plum, &c.

"SECOND STAGE.—Elementary Operations.—Description, and use of implements, under each head. Operations connected with the land, with explanations of good and bad methods. Digging and trenching, draining, hoeing, stirring the soil, and weeding. Watering. Preparation of seed beds, rolling and raking, sowing, transplanting, and thinning. Potting, planting, position, and shelter. Staking, earthing, and blanching. Propagation: elementary principles, cuttings, budding, grafting. Insects and fungus pests.

"THIRD STAGE.—Advanced Practice.—Budding, grafting, and stocks used. Layering, division, branch-pruning; root-pruning, old and young trees and bushes. Fruit culture: open air and under glass. Small fruits: Apples and Pears. Stone fruits: gathering and storing, packing and marketing. Vegetable culture; tubers and roots. Green vegetables. Fruits and seeds (Peas, Beans, &c). Rotation of crops. Flower culture: open air and under glass. Manures and their application. Treatment of insect pests. Treatment of fungus pests. General knowledge of fruits."*

This syllabus covers the practical details of garden work generally, but the first stage is of especial value, showing that all the operations have underlying their performance definite reasons why they are, or should be done, animating the purely practical with the very spirit, of which the former is but the embodiment. The close inter-relationship of this part of the subject with certain branches of "physiography" will be evident. A school course of this epitome of the sciences will prove of especial value in clearing the way of the difficulties in understanding the technicalities, &c., involved in the advanced studies of botany especially referring to "plant physiology," chemistry, geology, atmosphere, weather and climate, work and energy, heat and light, are physical phenomena involved and resultant, playing a most important part in "plant life." As much of each of the above branches have a bearing on the question—viz., chemistry, a knowledge of the elements and compounds, their affinities, and chemical formula and symbols. Geology, the nature and composition of the rocks, as the source of important elements (inorganic) of plant food, the part which rocks play in the formation of soils, &c. Atmosphere, its composition, measurement, height, density, temperature, and hygrometric conditions. Weather and climate, causes affecting climate. Work

and energy, in relation to the sun as the source of energy. Heat, its nature, source, measurement, effects on liquids, solids, and gases, evaporation and radiation. Light, its effects on vegetation.

A course of elementary chemistry would enable the student to grasp in their proper order the leading principles involved in relation to the elements of plant foods, the economy of manures, and a knowledge of plant physiology covered by the advanced stage in botany which should follow in due course later on.

It would be of immense advantage to our intended gardener if he could possibly remain at school until his fifteenth birthday, so that besides passing the sixth and seventh standards he would have a year longer to carry out concurrently along with his usual standard work the specific subjects named. In regard to teaching facilities, in urban and suburban districts there will be no difficulty found; even in the rural districts, at the present rate of progress, not many years will elapse before all schoolmasters are abreast of

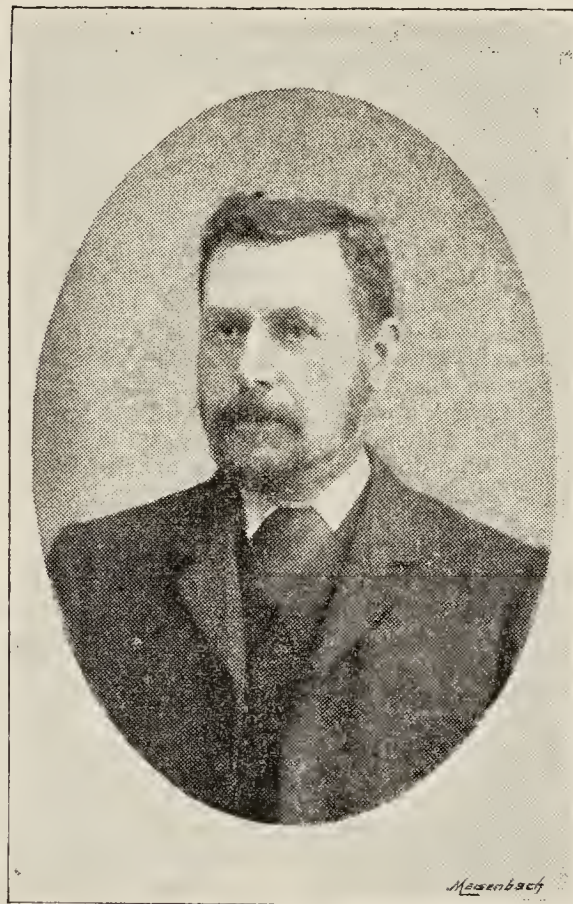


FIG. 47.—MR. T. GARNETT.

the "economic sciences." The same remarks apply to languages, and the gardener's education cannot be called complete unless he knows sufficient Latin to understand the names of plants and the botanical terms used.

(To be continued.)

FRUIT TREES AND FRUIT.

AMONGST KENTISH FRUITS WITH MR. GEORGE BUNYARD.

IF *pomum redivivum* be good Latin, of which, the Latin-learning days being in the long ago, I am a little doubtful, it might be inscribed with a double meaning over the portals of the great nursery which Mr. G. Bunyard directs with such conspicuous ability and success near the pleasant old town of Maidstone. His great practical knowledge, foresight, acumen, and courage have done much to further the revival of British fruit growing; while years before the movement in which he has taken a prominent part gained force he had revived the drooping fortunes of an old-established house by the same admirable qualities. In looking over the magnificent collection of fruit exhibited by him at Earl's Court the lesson was learned that what he has advocated with voice and pen he proves to the hilt by actual produce, and those who in face of the conviction piled on conviction's head during the past year or two still persisted that fruit could not be produced in a large bulk equal to imported specimens must have received a rude shock. Perhaps they supported themselves with the assumption that the splendid Apples exhibited were all picked examples, grown on highly fed established trees under glass, hence large in size, polished in appearance, and rich in colour. And as people in general are just as ready to base an elaborate argument on a hasty assumption as on a well established fact, they would be able to reason themselves into a state of considerable pessimistic comfort. But what are the facts? Something quite different, believe me. A visit to Maidstone arising out of the Show referred to, whereat a great desire was engendered to see the conditions under which fruit is grown in Mr. Bunyard's nursery, shows that the magnificent fruit staged was gathered, not from established highly fed trees under glass, but from

* Abstracted from Schedule of Specific Subjects.—Ed. Code.

young specimens growing under ordinary conditions in an extensive nursery.

THE ALLINGTON NURSERIES.

The principal nursery, for there are more than one connected with Mr. Bunyard's great business, is that adjoining Barming Station on the L.C. and D. railway, reached from London *via* Sevenoaks. It comprises 96 acres, of which about 16 are under seeds and Potatoes, 30 under Roses, shrubs, and Conifers, and 50 under fruit trees. A goodly sight it presents on a brilliant October morning, and its condition is such as may be viewed with admiration by visitors and with pride by the proprietor. The trees are in serried ranks, thousands upon thousands; but, although the rows represent a length of many miles, weeds are conspicuous only by their absence. Everywhere order, cleanliness, and good culture are observable. Miles of healthy, thrifty trees betokening the practical cunning of the guiding hand. They are in perfect condition, vigorous but sturdy, with clean stems, perfectly developed leafage, and, in many instances, a crop of fine fruit, albeit gathering time has cleared many of their burden.

Just such pleasure as is experienced in looking over a well-kept flower garden—the beds well furnished, the lawn even, the borders neat—is felt in following Mr. Bunyard over his splendid nursery, and noticing the prevailing features. What other than a garden is it, though it run to scores of acres and contain no flowers save a few adventitious fruit blossoms? Who will say there is no beauty in long ranks of Apple trees, some ruddy with fruit, but all bright, clean, and healthy? There is abundant variety about them too, even when fruitless, for each has its peculiarity of foliage or growth. Here is the somewhat meagre leafage of Stirling Castle, which forms fruit buds as it grows and therefore advances but slowly; there are the thick stems and bold substantial leaves of Bramley's Seedling, bearing very well on the Paradise here, though in heavier soil its one fault of tardy fruitfulness becomes apparent. Mr. Bunyard knows them all. He goes through acre after acre, picking out one after another. They are like familiar children to him. When their fruit is off he knows them by their leaves; when the leaves are off no doubt he knows them by their stems, and I should not like to say that if they were cut down he would be puzzled by the roots, for there the question of stocks comes in, and if anyone knows stocks well it is he.

TWO-YEAR-OLD BISMARCKS.

There was one sight in the nursery at the time of my visit not soon to be forgotten, and that was a quarter of Bismarck two years old bearing three to six enormous fruits of the richest colour. They were from 2 to 3 feet high, and very striking. What was particularly noticeable, too, was the fact that they were by no means stunted by their precociousness, but have made vigorous and healthy growth during the past season. Superb dishes of show fruit have been picked from these young trees, and there is not the slightest doubt that had it been marketed high prices would have been realised. We do not see much imported fruit of the weight, size, and colour of that gathered in abundance from Kentish soil. I do not know what Mr. Bunyard's stock of Bismarck amounts to, but it must be an extensive one, and finer trees than those which compose it it would be hard to imagine. It would be difficult to speak too highly of the great Australian. In every respect it is an Apple of the highest class. It is a free and healthy grower, bears early and heavily, does well both on the Paradise and Crab stocks, is not delicate as to soil, and the fruit—which is large, heavy, and handsome—keeps well. It is a culinary variety, that has essentially come to stay. Order Bismarck and order early, for last year the report on every hand was "sold out," and this year the demand will be still greater. Sterling Apples like this will sell—sell, I mean, both as trees and as fruit. The big Kentish market growers are after it, and will not be denied. They scent money in it, more, perhaps, than there is in the "Ecks," Grosvenors, and other of their reliables. Time will settle this point, but be sure that whatever its ultimate position as a market variety may be it is a grand garden Apple, and to be without it is to be behind the times.

OLD AND NEW APPLES.

Mr. George Bunyard is blessed with more than average length of limb, and being now happily restored to health his stride is long and vigorous, so that anyone who can keep going with him at his best pace will see much in a couple of hours' hard exercise at the Allington nursery. And he is a good guide, thoroughly at home among his trees and full of information about them. Old and new varieties pass in review. Here is Bismarck, the pride of the nursery, as I have said, and there a fine quarter of Lane's Prince Albert, splendid on the Paradise for bush work, but rather slow in running up as a standard, hence established on the Kentish Goff. There is one magnificent break of about 14,000 trees, comprising two or three popular varieties, on the Paradise, without a weakening among them, but all healthy and vigorous. Then we observe the Hornead Fearmain, a dessert or cooking Apple, not sufficiently grown, being of good quality and an excellent keeper. Grenadier is in splendid condition also. Is this good Codlin going to make headway? Bramley's Seedling on the Paradise is striking, for it is bearing a fair crop of handsome fruits. New Hawthornden and Potts's Seedling are grown in enormous quantities, for these admirable Apples are in great demand. Lady Sudeley bears out what Mr. Bunyard has recently told us in the *Journal*—namely, that it must not be pruned hard. It is conspicuous, like Golden Noble, for the bareness of the lower part of the stems, and bears towards the tips of the shoots. Evidently it will be best suited by being left alone when pruning time arrives, except for thinning. This beautiful Apple is likely to become popular, for it is of

very agreeable quality, and has soft, digestible flesh. It is an excellent early variety for eating from the tree. It will make a splendid free pyramid, and should be ordered.

Summer Golden Pippin or Yellow Ingestrie, which, by the way, does better grafted than budded, is in much demand as a market variety, and is largely grown, for its beautiful little fruits sell well. Wealthy makes itself conspicuous by its rich and brilliant colouring. It is another of the Apples that are likely to grow in favour, and may be eaten either raw or cooked. Almost the same remarks apply to Baumann's Winter Reinette, a beautiful Apple, and the tree a fine bearer. Three-year-old Dutch Mignonnes are loaded with fruit. Cornish Aromatic, a dessert variety of sprightly quality; Cox's Pomona, large and finely coloured; Gascoigne's Scarlet Seedling, a beautiful Apple and a free bearer, raised near Sittingbourne; Gold Medal, a culinary variety, large and good-looking; Okara, a distinct and well-flavoured Swedish Apple; Peasgood's Nonesuch, of which magnificent examples have recently been shown; Royal Jubilee, a new and promising culinary variety, well worthy of trial; and the Queen, represented by some splendid fruits, are but a few of the others that are noticed.

TRAINED TREES.

Gridirons and toasting forks are useful household implements, while pitchforks prove their serviceable character elsewhere. All have their counterpart in the trained trees at Maidstone. We see Apple "gridirons" for the side of walks, where they serve the same purpose as espaliers, differing from them in having upright shoots springing from a horizontal tier instead of having several tiers of horizontals one above the other. Then we observe Pear "toasting forks," dwarf trained with three upright branches; and Pear "pitchforks," which have two uprights, and are admirably adapted for the pillars of walls. Amongst the Apples, however, nothing was more striking than the "amateurs' standards," which are on the Paradise stock, half and full length stems. They are feathered with fruit spurs from base to summit, and could be fruited, cordon-like, on the stems until the branched heads came into bearing. These are recommended for private gardens where a combination of standard trees and prompt bearing is required. The fruiting bushes on the Paradise are also admirable trees. They are trained with six or more branches springing from the base and wide apart, so that sun and air can have full play, and if the foundation thus laid in the nursery is followed up an admirable type of trees is secured. They are clothed with fruit buds, and ready for bearing next season. There are plenty of small bushes to be seen, about 4 feet high and 3 feet through, planted 6 feet apart, bearing from twelve to twenty splendid fruits. Espaliers with two, three, four, and five tiers are grown in abundance. Then there are espalier-trained trees for walls and cordons, both single and double, upright and horizontal, Apple and Pear in great numbers. Of these either young trees to be grown into a fruiting state, or specimens studded with fruit spurs can be had. So far as securing trained trees is concerned it seems to be merely a question of ordering, for they are ready in all sorts, shapes, and sizes, admirably trained, clean, in robust health and vigour.

THE FRUIT ROOM.

A grateful odour of ripe and ripening Apples—that piquant and mellow aroma which is so agreeable and refreshing—betrays the occupants of a heavily thatched structure in the open nursery. The fruit room is a very simple structure, and could be imitated cheaply. It is constructed of match-boarding, both top and sides, and thoroughly thatched from base to summit. Wire gauze ventilators at the top and sides insure a pure stream of air. The room is now a splendid sight. The broad shelves laden with the splendid fruit, which secured Mr. Bunyard a silver-gilt medal at Earl's Court, present a significant and instructive spectacle. Here, indeed, is proof eloquent and conclusive of what English soil and English culture can do in the production of high-class fruit. It is not one variety alone, developed by special treatment, that gives such noteworthy results. The varieties number scores, grown under no other conditions than good soil, pure air, and general nursery management of a sound and practical character. The door of the fruit-room is open to visitors, so that all may learn the lesson that is conveyed by it, and those who have fruit they want naming can bring it for comparison with the Maidstone fruit. The extreme care that is taken to keep all varieties true to name admits little chance of error. "We are mortal," says Mr. Bunyard, "and therefore not infallible, but all that can be done to keep things true we do."

THE OTHER NURSERIES.

A pleasant drive from Allington to Maidstone takes us to the home nurseries, a cluster of seven small places with about fifty houses. This is a surprise to many who fall into the way of classing Bunyard & Co. as fruit growers only. The florists' department is both extensive and well kept. Then there are spacious shops and offices for the seed business and clerical work, a landscape gardener's office and other conveniences. Besides these there is the Chiltern Nursery of eighteen acres where the Strawberries are grown, also shrubs and forest trees, in which the trade is by means small. Telephone communication connects all the chief centres with the head office, which is close to the S.E. railway station at Maidstone. Space permits of no further reference to the nurseries, but they are open to visitors from all parts. They teach a much-needed lesson of good management and of the benefits that accrue from soil culture, cleanliness, and plain wholesome fare. When the sound methods that characterise the work of George Bunyard and his lieutenants become widely imitated there will be great hope for fruit-growing at home.—W. P. W.



TEA-SCENTED AND NOISETTE ROSES FOR CUTTING.

MANY varieties of sterling merit have during recent years been added to our lists of Tea Roses. This must tend to make them increasingly popular, and will doubtless have the effect of causing them to be grown even more extensively, for there are very few places in which the supply is equal to the demand. Without having any intention to write disparagingly of the merits of Hybrid Perpetuals, which are extremely beautiful in their way, it is nevertheless well to note the fact that very few ladies would choose a bloom of one in preference to a well grown Tea Rose. The delicious perfume, characteristic form, and exquisitely shaded colours of Tea Roses give them a beauty of their own which compels instinctive admiration; yet in many gardens of pretension, where the former are grown by the hundred, a few dozens only of the latter are cultivated in the open air. True, this may be accounted for to some extent by the comparative tenderness of Teas, but after making due allowance for that it seems somewhat strange that it should be so when there are so many sheltered positions in gardens in general where these great favourites would grow and flower to perfection. Plants on their own roots may also be safely grown as bushes in beds and borders if 3 inches of leaf soil, cocoa-nut fibre, or short strawy manure are placed around the stems before severe weather sets in. When this precaution is taken, although the wood may in very severe winters be killed to the ground, the roots, or rather the stem, will again send up strong suckers, which will give good blooms late in the season.

Early in November last year I planted against a low south wall the following varieties:—Adam, Innocente Pirola, Souvenir d'un Ami, Safrano, Caroline Kuster, Hon. Edith Gifford, Anna Olivier, Madame Lambard, Rubens, Ernest Metz, Ma Capucine, Comtesse de Nadaillac, Madame de Watteville, Perle des Jardins, Princess of Wales, The Bride, Madame Riza du Parc, Bougère, and Souvenir d'Elise. When the planting was completed, leaf soil to the depth of 3 inches was placed around each bush, so as to form a mound about 18 inches in diameter. Notwithstanding the severe winter which followed, every bush grew, and only one among the number had the wood killed to the ground, this being that reputedly tender variety Madame de Watteville. Strong suckers were, however, sent up in the spring which produced several good blooms during August. Perle des Jardins and Ma Capucine have grown wonderfully well and produced a surprising number of blooms. Even now (October 8th) I have counted from nine to twelve promising buds on several of the plants, and if we escape sharp frosts for another week, most of these buds will be sufficiently advanced to be cut. The first named of these two varieties has a delicious perfume, and good blooms, almost equal in appearance to Maréchal Niel. Considering its hardiness and high quality I consider Perle des Jardins to be one of the very best among Tea Roses. Ma Capucine has one defect—viz., very little scent. The buds, however, are of exquisite form, and the colour coppery yellow. This variety is especially suitable for supplying beautiful buds late in the season. Both The Bride and Innocente Pirola are good growers and produce exceptionally fine flowers. The first named, like its parent, Catherine Mermet, throws up strong shoots, which are surmounted by a number of fine buds. This variety, for form, substance, and purity, is the best white Tea grown. Hon. Edith Gifford, with its salmon-rose centre, supplies a colour which finds many admirers. The flowers are very large and full, but are not so freely produced as is the case with some varieties. Madame Lambard is a most useful and telling variety. The bright red colour of its flowers is one which is much wanted. Among Teas, on that account, it should be freely planted; it is, moreover, one of the most hardy and floriferous of its class. In some soils and positions the flowers come much paler in colour than in others, the best coloured ones being produced on plants growing in a heavy staple.

Adam and President are, I think, too much alike for both to be included in a collection. They are moderate growers, and produce their salmon-coloured flowers freely. Bougère is another very fine Rose for cutting, and, although not bearing many flowers at any particular time, is scarcely ever without a few. Souvenir d'Elise is, I think, one of the very best and most beautiful. Princess of Wales has proved the weakest grower among our collection. It is greatly admired when the buds are in a half-opened stage, the colour then being rose-yellow, which is both novel and attractive. Comtesse Riza du Parc is a variety not much grown, but it is a most useful one for supplying a quantity of cut blooms of a metallic rose colour. Almost everyone knows of the great value of Celine Forestier as a wall Rose, but few are aware that it is so thoroughly hardy. We have several bushes growing in a very exposed position which have withstood the severe cold of the last two winters, with the loss of only a few small shoots.

Old trees of Homère and Ophire on walls have throughout the summer given us a wealth of lovely buds, such good growers and free flowers as these two are indispensable where quantities of Tea Roses are required. Safrano fleurs rouges, like its well-known relative, is beautiful in the bud, flowers freely, and somewhat resembles Madame Lambard in colour. Madame Berard is a very strong grower, being good for covering arches and high walls. The flowers are similar to those of Gloire de

Dijon, but of a brighter colour. When cut, however, they do not last so long as those of the latter variety. William Allen Richardson and Reine Marie Henriette are two grand varieties, useful alike for growing both indoors or out, as also are Niphotos and its climbing form.

I find Tea Roses are valuable for affording flowers during September and October, as well as during the summer months; but to do them justice in the autumn a good deal of attention should be bestowed upon collecting and preparing them for that special purpose. I make a practice of collecting any buds which are beginning to open every afternoon. Some of these are not very attractive in appearance when gathered on account of the outer petals being browned by wind and rain. These are removed, and where practical the remaining petals loosened with the handle of a budding knife; the flowers are then placed in warm water and kept in the fruit room for twelve or twenty-four hours, during which time they open considerably, and are then ready for decorative purposes. They last several days and develop into full blown Roses. Anyone who has not hitherto done so will do well to give this little extra attention to Roses whenever the weather is unfavourable for their development.—H. DUNKIN.

PLAGIARISM.

WE have received the following letter, which we do not hesitate to publish; and regret extremely that an evidently able man should have allowed himself to appropriate and use as his own the experience and literary work of Mr. Barron. In the conditions attaching to the production of essays for our silver medals it is made imperative that every quotation used should be indicated in inverted commas and the source fully acknowledged, and that every book from which knowledge is gained shall be mentioned. This is only just and fair to authors, and our desire is to discountenance all such literary immorality as is represented in this case.

MR. BARRON'S LETTER.

Permit me to direct your attention to a report of an essay on "Grape Vines and Their Cultivation," read at a meeting of the Devon and Exeter Gardeners' Association by Mr. McCormick, which is almost a word for word extract from my book "Vines and Vine Culture."

I have no objection to Mr. McCormick or anyone else making copious extracts from my work; indeed, I take it as a compliment, but in all fairness he ought to have acknowledged the source of his knowledge, and not try to sail under false colours.

You will see by the copy I have marked, the extent of the cribbing I complain of, and as I note it is "to be continued," I must ask you to inform Mr. McCormick that I object, and I shall demand of him a suitable apology.—A. F. BARRON, Author of "Vines and Vine Culture." *Entered at Stationers' Hall.*

MR. BARRON'S BOOK.

Chop the turves with the grass and fibre roughly to pieces, and to 5 or 6 cubic yards of this material add 1 yard of old lime rubbish or broken bricks, a portion of charcoal, wood ashes, or burnt soil. . . . Those ingredients, well mixed, will constitute the main body of soil, . . . but is subject . . . to considerable modification as to proportions, according to the quality of the loam . . . If the loam used is of a sandy nature, less of the lime rubbish must be used, as the object . . . is . . . to give porosity to the soil. If, on the other hand, it is of a clayey nature, a much greater proportion of lime rubbish will be required.

In many places it may be very difficult to obtain soil at all approaching that which is here recommended, but let no one despair of cultivating Grapes on that account. Vines will grow, and grow well, in soils of a much inferior nature under careful management.

Manures.—For the growth of Vines nearly all soils require the addition of some fertilising ingredients. . . . Not very many years ago it was the popular belief and custom in the formation of a Vine border to bury the carcasses of animals—such as horses, cows, &c.—in the border, under the mistaken idea that the roots of the Vines revelled in such putrid matter; a more stupid idea never existed. At the present time very

MR. MCCORMICK'S PAPER.

I advise chopping the turf with the grass and fibre roughly to pieces, and to 5 or 6 cubic yards of this add 1 yard of old lime rubbish or broken bricks, a portion of charcoal, wood ashes or burnt soil; these well mixed will constitute the main body of the border, but are subject to considerable modification as to proportions according to the quality of the loam. If this be of a sandy nature less of the lime rubbish must be used, as the object in employing it is to give porosity to the soil. If, on the other hand, it is of a clayey nature a greater portion of lime rubbish will be required.

In many places it may be very difficult to obtain soil at all approaching that which I have recommended, but let no one despair of growing Grapes on that account. Vines will grow well in soils of a much inferior nature under careful management.

MANURES.—For the growth of the Vine nearly all soils require the addition of some fertilising agent. Not very many years ago it was a popular plan to bury the carcasses of animals such as horses, cows, &c., in the borders, under the mistaken impression that the roots revelled in such putrid matter. A more erroneous idea never existed. At the present time very different notions prevail in regard to manures, and also the making

different notions prevail in regard to manures, and also the making of Vine borders. Some of the best cultivators now have their soils analysed with great care, and the different ingredients, of which they may be found deficient, added with mathematical precision.

In the formation of a Vine border which is intended to be of a permanent nature, the manures that may be used should be of a lasting character, so that they will afford support to the Vines as long as possible.

Size of Border.—The Vine may be grown in a very small space, and in a very little soil, as is evidenced by the splendid results obtained by its cultivation in pots. . . . If permanent Vines are desired—Vines that will continue in full vigour for, say, twenty years—a border of considerable size must be provided. . . . Many good cultivators form their Vine borders in sections—i.e., 3 or 4 feet is made up the first season, a similar portion is added the following year, and so on, until the required space is filled.

Inside v. Outside Borders.—Much discussion has taken place as to . . . having the Vines planted inside . . . or in borders outside the house. . . . The disadvantages are . . . The great amount of labour, &c., required in watering, and the skill and care necessary in keeping up the requisite degree of moisture at the roots. A scarcity of water, or a little neglect in its application, will ruin the crop. On the other hand, outside borders require little attention in regard to watering.

Drainage.—This is one of the most important operations in the formation of a Vine border, and one that, in some situations, entails a considerable amount of expense and trouble to render it efficient. It is a point that must always be taken into consideration in selecting the position for a vinery. . . . It is better to take all ordinary precautions at the first, rather than to run any risks, and then, after several years of loss and disappointment, to have all the work to do over again.

In every case, therefore, a considerable amount of draining material should be placed over the whole surface of the bed of the border—say from 1 to 2 feet or more in depth.

In the formation of a Vine border, it will thus be seen that every contingency ought to be taken into consideration, not only the position or situation, but also the level of the border itself. The amount of excavation necessary in making up the border will be determined by its depth, measuring from the surface-level; thus a border raised 2½ feet requires only to be excavated to a depth sufficient to hold the drainage.

Covering.—It has long been customary that Vine borders should be at all times covered with some fermenting material. It is, however, not necessary in ordinary cases. The beneficial effects of the frost on the soil is well known, and it is good practice to expose the soil of a Vine border to its action as much as possible.

of Vine borders. Some of the best cultivators now have their soils analysed with great care, and different ingredients in which they may be found deficient added with mathematical precision. In the formation of a Vine border which is intended to be of a permanent nature the manures that may be used should be of a lasting character, so that it will afford support to the Vine as long as possible.

BORDERS.—Vines may be grown in a small space and in very little soil, as is evident by the splendid results obtained by their cultivation in pots, but they are soon worn out; one crop one season and they are done. If Vines are desired that will last for twenty-five or thirty years borders of considerable size must be provided, and this is best done in sections. If young Vines are to be planted 4 to 6 feet will be found sufficient to make up the first season, adding a similar portion as the roots extend, and so on until the space is filled up.

Much discussion has taken place as to having the Vines planted with the roots inside or in borders outside the house. . . . The disadvantages are the great amount of labour required in watering, and the skill and care necessary in keeping up the requisite degree of moisture at the roots. A scarcity of water, or a little neglect in its application, will ruin the crop. On the other hand, outside borders require little attention in regard to watering.

DRAINAGE.—This is one of the most important matters in the formation of a Vine border, and one that in some situations entails a considerable amount of trouble and expense to render it efficient. It is a point that should always be taken into consideration in selecting a position for a vinery. It is better to take all ordinary precautions at the first rather than run any risk, and then after several years of loss and disappointment to have all the work to do over again. A considerable amount of draining material should be placed over the whole of the bed of the border—say, from 1 foot to 15 inches in depth, and certainly never less than 9 inches. . . . In the formation of a Vine border everything ought to be taken into consideration, not only the position, but also the level of the border. The amount of excavation necessary in making up the border will be determined by its depth, measuring from the surface level; thus a border raised 2½ feet requires only to be excavated to a depth sufficient to hold the drainage.

COVERING BORDERS.—It is an old custom, and I think considered by many to be needful, that Vine borders should be covered, but I do not now think it is necessary in ordinary cases. The beneficial effects of frost on soil are well known, and it is a good practice to expose the soil of a Vine border to its action as much as possible.

More Vines are ruined through want of water, perhaps, than from any other cause. The quantity of water which Vines require in well-drained borders is astonishing. . . . Before the Vines are started into growth, every particle of soil should be thoroughly saturated, and from the time they come into leaf until the ripening of the fruit.

WATERING.—More Vines are ruined through the want of water than perhaps any other cause known. The quantity of water a Vine requires when growing in well-drained borders is astonishing. . . . Before the Vines are started into growth every particle of the soil should be thoroughly saturated, and from the time they come into leaf until they begin to ripen the fruit.

We decline to publish the remaining part of Mr. McCormick's paper. It is good, as it ought to be, as it contains a great deal of matter from Mr. Barron's book, but wholly unacknowledged. The foregoing extracts in paralleled columns are sufficient to show that Mr. Barron is justified in demanding a suitable apology from Mr. McCormick.



— **EVENTS OF THE WEEK.**—The forthcoming week will be exceptionally quiet so far as metropolitan horticultural events are concerned. There will not be any exhibitions held within the metropolitan area, but several important sales will take place. Attention might also be drawn to a five-days sale of nursery stock, which will commence on Monday, 24th, at Hare Hill and Brox Nurseries, Addlestone, and likewise to a sale of Orchids and stove plants at Bristol on Tuesday, 25th. For particulars of these and other sales see advertisement pages.

— **THE WEATHER IN LONDON.**—Although it by no means opened favourably, this week promises to be fine. Sunday proved dull and gusty with occasional showers, but it has since been clearer though cold. At the time of going to press the barometer is firm and sky clear, with north-westerly winds. A slight frost occurred on Tuesday night.

— **THE WEATHER IN THE NORTH.**—With 6° of frost on the morning of the 12th, 3° on the 17th, and 9½°, with very dense hoar frost, this morning (18th), we have had our foretaste of winter. Fine cold weather for the last ten days has enabled the farmers in this locality to secure nearly all their grain. Small quantities of Beans are still in stock. Potato lifting has begun, but these are not grown to any great extent here. In many parts of the country things have not been so favourable. From Berwickshire a friend writes:—"There are hundreds of acres out in this county, even on good soils. As for the Lammermoor farms the crop is quite green, and they are just cutting it. The weather is cold, and scarcely a day is dry throughout. What with low prices for stock and a bad harvest farmers, especially hill ones, are to be badly set this season."—B. D., *S. Perthshire*.

— **COMPLIMENTARY DINNER AND PRESENTATION TO MR. WILLIAM MARSHALL.**—A number of gentlemen associated with Mr. Marshall in carrying out the series of flower shows in connection with the International Horticultural Exhibition at Earl's Court, as judges and exhibitors, entertained Mr. Marshall at a dinner in the Exhibition building on the 13th inst., Mr. Harry Turner acting as Chairman, supported by Messrs. J. Laing, H. Herbst, P. Barr, W. Poupart, A. F. Barron, H. Williams, A. Turner, J. Walker, B. Wynne, R. Dean, &c. In the course of the evening the Chairman presented Mr. Marshall with an oil painting by Miss Macfarlane, representing a Spanish vase containing flowers of *Brassavola Digbyana* and *Cypripedium barbatum*, with a bloom of the *Gloire de Dijon* Rose lying at the base, the picture having been purchased by contributions from a number of friends. Mr. Marshall, who appeared to be much gratified by the compliment paid him, suitably responded.

— **THE SPINDLE TREE.**—Please state in your next issue of the Journal the name of the enclosed specimen I found in a hedge surrounding a coppice, and had been laid with other undergrowth to make the hedge. It is not common here (near Holmwood, Surrey), only a few plants are to be found at long intervals. The natives of the locality call it the "Skewer-wood." I am almost sure it is a deciduous shrub; its berries, or seeds, are very ornamental.—B. G. [The shrub is *Euonymus europæus* or Spindle Tree, which grows freely in many localities. The sprays, with their scarlet fruits, are very attractive, and particularly appropriate to vase and table decoration at this season of the year.]

— **FRUIT AND THE LORD MAYOR'S SHOW.**—We have heard that a movement is on foot having for its object the representation of the fruit-growing industry, &c., in the Lord Mayor's Show on November 9th.

— **PROFESSOR H. MARSHALL WARD ON FUNGI.**—Professor H. Marshall Ward, F.R.S., of the Royal Engineering College, Cooper's Hill, is giving a course of ten lectures at University College, London, on "Morphology and Physiology of Fungi and Schizomycetes." The course began on Thursday, October 13th, at 3 P.M., and will be continued at the same time each week till Christmas.

— **SPIDER WEB SEDUM.**—Having noticed the remarks made by "D., Deal," on this interesting Sedum, preserving its spider web like appearance when covered with glass, I may say that I keep several clumps under glass. Those covered with plain clear glass are by far the prettier, the other under cut or carved glass scarcely showing the webs.—W. T.

— **A PANSY SOCIETY.**—The formation of a Pansy Society is, I am told, under consideration. Admirers of the Pansy may deem this a step in the right direction, but personally I question its advisability. What do others say? The matter, I believe, is in the hands of Mr. George McLeod of Chingford, a well known amateur Pansy and Viola grower.—NOMAD.

— **PEACHES ON OPEN WALLS IN THE NORTH.**—I can endorse what Mr. Campbell says regarding the possibility of growing Peaches in the open air. I have gathered Peaches from the open walls from the last week in July till the present time, October the 10th. I find Early Beatrice a good variety for the open wall.—G. KNIGHT, *Conyngham Hall, Knaresborough.*

— **BOUVARDIAS.**—These most useful plants are looking exceedingly well at Messrs. Veitch's nursery. They are the most sturdy plants I have ever seen, and some of the varieties are now a mass of colour. Purity Beauty, Elegans, Jasminiflora, Vreelandi, President Garfield, President Cleveland, Mrs. Garfield, Alfred Neuner, Mrs. Robert Green, and Vulcan, are amongst the best.—H. W.

— **THE WEATHER DURING SEPTEMBER AT RIPLEY, YORKS.**—This month was, on the whole, very favourable, and in consequence the greater part of the corn in the neighbourhood was harvested. Wind was prevalent, culminating in a gale on the 27th. The rainfall was light, being only 1.06 inch, which fell on thirteen days, the greatest daily fall being 0.22 inch on the 1st. Mean reading of the barometer, 29.93. Mean maximum temperature, 60.9°; mean minimum temperature, 37.5°; mean temperature, 49.2°; highest maximum temperature, 71° on 10th; lowest minimum temperature, 27° on 5th and 30th.—J. TUNNINGTON.

— **A NEW SUGAR CANE.**—A new variety of Sugar Cane is stated to have been discovered in the Upper Niger region of Central Africa. It is described as "a giant variety, possessing great saccharine richness, and capable of being readily reproduced from seed, which in this variety is well developed." Several inquiries have already been addressed to Kew in regard to this cane, and it may be well to state at once that there are grounds for believing that the plant mentioned is not a Sugar Cane at all, but the ordinary Guinea Corn or Sorghum (*Sorghum vulgare*), which is widely distributed over Africa. This plant, it is well known, yields a useful syrup, and strenuous efforts are being made in the United States at the present time to extract a granulated sugar from it. Should the Niger plant prove to possess any special merits as a Sorghum, we shall no doubt hear more about it. It can have, however, little or no interest to the tropical sugar planter.—("Kew Bulletin.")

— **VIOLA PETER BARR.**—This new Viola has been awarded three first-class certificates in the north this year, and is certain to become a very popular variety. Many readers of the *Journal* will recollect having seen it exhibited by Messrs. Dobbie & Co. of Rothesay at the Royal Horticultural Society's meeting at the Drill Hall on September 20th. It is a Columbine-like flower with a yellow centre, lightly rayed, bordered with a heavy belting of bronzy pink; and as I have grown it this year I can vouch for it being quite novel, distinct, and a good grower. It will be sent out by Messrs. Dobbie & Co. in 1893. Novel as the bloom appears the history of the variety is equally as curious. It was raised by Mr. Peter Barr at his nurseries at Thames Ditton from seed supplied by Mr. J. D. Stuart, Belfast. I intend to lay claim to its introduction into commerce, as I had the pleasure of selecting it as the only novelty in a bed of several thousand seedlings.—GEO. MCLEOD, F.R.H.S., *Chingford.*

— **THE LINNÆAN SOCIETY.**—At the meeting of the Linnæan Society of New South Wales on August 31st, Mr. H. Deane, Vice-President, who occupied the chair, referred to the loss the Society had sustained by the death of Mr. R. D. Fitzgerald, well known for his knowledge and for his artistic delineations of Australian Orchids.

— **AMASONIA PUNICEA.**—This is a charming and rather uncommon stove plant, and is well worthy of far more extended culture. It remains in flower for three or four months during the summer, but the fogs of autumn have a most disastrous effect on it, causing the curious yellow flowers to fall very rapidly. In the country, away from smoky fogs, it would doubtless flower over a much more extended period.—H.

— **DEATH OF MR. R. BULLEN.**—We regret to announce the sudden death of Mr. Robert Bullen, the Curator of the Glasgow Botanic Gardens, on the 4th inst. He was well known as a horticulturist, being especially successful in the cultivation of Orchids. The post vacated by his death is one of the best of the kind in the country, and we understand that the appointment will rest with the Corporation of Glasgow, who took over the management of the Botanic Gardens in 1891.

— **HYACINTHUS CANDICANS.**—This charming bulbous plant has been seen to advantage in many of the metropolitan parks this season. At Finsbury Park some large circular beds of it have attracted considerable attention all the summer, whilst in Dulwich Park huge clumps on the borders have been most conspicuous. It is a beautiful plant, and should be more extensively grown in masses in private gardens. Being hardy and of tolerably easy culture there need be no difficulty in getting it established on borders.—C.

— **HARVEST OFFERINGS.**—In noting the excellent purpose to which the Vicar of Shirley had devoted the offertory at his church on Thanksgiving Day, you throw out a hint, "Go and do thou likewise." May I be permitted to say, in justice to my brother parsons, that in very many of our parishes the offertory, wholly or in part, is given (as in my own parish) to the Farmers' Royal Benevolent Institution, which I think perhaps even a more appropriate object in the present depressed state of British agriculture. The list of applicants is something appalling, and it increases every year, and I know of nothing more worthy of help from all who have the means than this most excellent and long-established Society.—D., *Deal.*

— **DAHLIAS IN KENT.**—It might be thought, after reading the paragraph in last week's issue, page 328, that Dahlias had all been cut off in the south, while those in the north were as good as ever. Perhaps our Scotch friends think that Kent and Scotland have had their geographical positions reversed, or that the temperature had been playing us cruel pranks in the south. Nothing of the kind. Mr. Cocker, of Aberdeen, told me last week his Dahlias had been blackened three weeks before. Not only are our Dahlias lovely, but even Heliotropes, Tropæolums, Begonias, and Alternantheras are looking quite fresh, and of which we send specimens.—H. CANNELL. [Such a wealth of fresh, bright flowers of various kinds could only have been gathered in the absence of frost.]

— **THE MARGARET CARNATIONS.**—Unless there are rival claimants for the honour of having introduced the Margaret Carnations these flowers originated, not in Germany, as Mr. W. Dean supposes, but in Italy. The nurserymen who claim to have introduced them state that the "tall" Margaret Carnations were introduced in 1883, the "semi-high" varieties in 1889, and the "dwarf double" or "Tom Thumb" varieties in 1890. The name is given by the firm in question as "*Dianthus caryophyllus Margaritæ fl.-pl.*," the title "Margaret Carnations" being given in honour of the Queen of Italy. Are we to adopt the French form of the word and spell it "Marguerite?" Why not use the English "Margaret," as the introducers have done in the English translation of their catalogue? The experiments at the Spark Hill Nurseries show that there is a great future before this class of Carnations, and it may be of service to some who contemplate working upon them with a view to their improvement, to state that seed in separate colours of the tall varieties may be obtained; among these being striped varieties. I have no precise information as to the parentage of the Margaret Carnations. It is supposed, however, that they are the result of a cross between a border Carnation and one of the varieties of *D. Hedewigi*. I think something might be done in the way of improvement by beginning afresh. I do not find these Carnations do well in this locality unless the seed is sown early in February, or if sown later pushed on in heat. Unless this is done they do not come into flower in the open the same season.—S. ARNOTT, *Dumfries.*

— CUT FLOWER TRADE IN LONDON.—The report of the Flower Girls' Mission states that the trade in cut flowers in London amounts to £5000 a day. Although this includes the profit of the florists, a large amount of this sum still remains to be accounted for by the earnings of the flower girls.

— ABOUT ANTS.—It is well known that ants harbour a variety of other insects in their nests, particularly Gamasid mites; and Mr. A. D. Michael, from a study of ants in Corsica and at Innsbruck, has come to the conclusion that the ants willingly tolerate the presence of the Gamasids, and even protect them. The mites are found to ride away on the backs of the ants when the nest is disturbed; and sometimes the ants carry off the mites and their young just as they do their own. Mr. Michael thinks the mites repay the ants for their hospitality by removing the bodies of their dead, which they devour.

— POTATOES.—The crops with us are very satisfactory, the yield being good and not one diseased tuber, the results being the same on medium and heavy soils. We do not plant many varieties, but good breadths of Sharpe's Victor, Veitch's Improved Ashleaf, Mona's Pride, Snowdrop and Magnum Bonum, the last mentioned being the most unsatisfactory cooker amongst them. Snowdrop, on the other hand, is an excellent cooking Potato, as also it is a cropper. The rows of the two last named are 3 feet apart and the yield is better than when planted closer, yet I cannot induce some of our allotment men to adopt this system; they seem to think that the more sets put into the ground the better the crop must be, but they are wrong.—J. TUNNINGTON, *Ripley Castle Gardens*.

— THE FRUITERERS' COMPANY.—One of the few surviving customs of old London was observed at the Mansion House on Wednesday evening, the 12th inst., when the Fruiterers' Company made their yearly presentation to the Lord Mayor. In remote times the municipal authorities levied a toll in kind upon all the fruit that was brought into the City. Their right to do so was far from being acknowledged by the vendors, who, however, had no alternative but to pay the tax. Eventually, after a long series of acrimonious disputes between the two bodies, a sort of compromise upon the point was come to, the Lord Mayor waiving his claim in return for a free offering of good will in the shape of ten bushels of Apples every October. Neatly packed in new white baskets, covered with spotless napkins, the fruit was gravely borne from Farringdon Market to Guildhall by a procession of porters in single file, headed by the Company's beadle in his gown. On the baskets being emptied a bottle of port was placed in each for the good of those who had brought them. In course of time the tribute came to include the best procurable samples of the various fruits in season, and the presentation was made an occasion for entertaining the court of the Company at dinner. Now that the guild, like so many others, has gradually ceased to have much or anything to do with the trade it continues to represent, some well-known firm of fruiterers are employed to make up the gift, the cost of which, including gratuities to the Lord Mayor's servants, amounts to about £25. It is understood that the present beadle of the Company has seen no fewer than 57 of these annual ceremonies.

— THE LORD MAYOR ON THE FRUIT QUESTION.—At the dinner which followed the above presentation, the Lord Mayor, in proposing the toast of the evening, "The Worshipful Company of Fruiterers," said that the guild was not one of the wealthiest institutions of its kind in London. Its merits, however, were to be judged rather by its deeds than by its position. Most of them know something of the good it had done in the way of furthering the interests of fruit culture in this country, especially since Sir James Whitehead had taken part in the work. The exhibition of English-grown fruit in the Guildhall two years ago had not been forgotten, and but for an accident there would have been a much larger show this year. In all probability one would be held in 1893. The progress of fruit culture in this country of late had been such that even the extensive Guildhall would be insufficient for the purpose, and they might have to resort to the larger area of the Thames Embankment. This progress was due in a large measure to the Fruiterers' Company, which set a noble example both to the poor and the rich guilds of London. England had various industries, but he thought that more depended upon agriculture than any other. Horticulture was closely allied to it, and, as far as they knew, horticulture had not yet received sufficient care and attention. His experience as a hunting man taught him that the weakest fence in the poverty-stricken acre of many homesteads was the orchard; there were twenty gaps there for one elsewhere.

— RATS EATING GOOSEBERRIES.—It would seem that rats at Milnthorpe, Westmoreland, have found a fresh outlet for their predatory impulses. A correspondent says that the ripe Gooseberries in his garden there were disappearing very rapidly this year, and he supposed that the mischief was being done by blackbirds. However, his attention was called to a large rat taking the berries off with its mouth, and dropping them to other rats below. Presently another climbed the bush and helped to gather the berries. In a little time both came down, each with a berry in its mouth, having a curious appearance. The performance was repeated several times. Then a wire cage was placed under the bush, and in three days nine of the intruders were caught.

— CARNATION WINTER CHEER.—Of the many beautiful winter-flowering Carnations to be seen at Messrs. Veitch's nursery this appears to rank amongst the very first. For an extended period of flowering it is certainly unequalled, being now, after having been planted in the beds since the spring, in splendid flower, with abundance of buds, which will yet open providing the frost does not cut them down. In pots they are just coming into flower, and the bright scarlet blooms will during the forthcoming months amply justify the name that has been given this variety. The habit of the plant is good, being very dwarf and sturdy. There are other varieties now in flower at the above nursery, a few of the most prominent being Madame Warocque, Duke of Clarence, Mrs. Moore, and Mrs. Henry Cannell.—W.

— DEVERILL'S AILSA CRAIG ONION.—"R. M.," in the *Journal of Horticulture* of last week, correctly described the true character of this Onion up to date. When I purchased the bulbs of Mr. D. Murray of Culzean Castle Gardens, the raiser of this popular Onion, some were a very deep-fleshed flat oval, and others inclined to globe shape (I described it as such in my seed list). In the selection of my bulbs for seed purposes I have gone in for the globe shape as much as possible, and I think the stock of seed for the coming season will be very near to this type. At the same time, as "R. M." states, "both are large handsome Onions," and really I do not like to discard either type. Already I feel sure they have been doing duty for some would-be so-called new Onions, but I do not envy the practice. Mr. Murray has never favoured me with the origin of this fine Onion, only that it was a seedling of his. I was, however, quite content, knowing that I had got hold of the best exhibition Onion ever put into commerce, and I feel confident that a dozen bulbs of Ailsa Craig, weighing 26 or 30 lbs. would be more attractive to visitors at shows than 20 dozen bulbs scaling only 6 or 8 ozs. per bulb, which undoubtedly is the correct size for the kitchen. As to its keeping qualities, last year it kept better with me than any other kind (excepting the Wroxton). The rush of orders prove to me that it will be grown largely during the coming year.—H. DEVERILL.

— RHODODENDRONS AT CHELSEA.—Messrs. James Veitch & Sons, Royal Exotic Nursery, have in flower some of the most charming of the greenhouse Rhododendrons, remarkable alike for the small state in which they flower and for their extreme floriferousness. They embrace almost all colours, from the purest white to the darkest crimson. Among the most striking of those at present in bloom is Neptune (which was figured in your issue of last week), orange-scarlet, the latter greatly predominating. Aphrodite is a pale blush white, one of the most beautiful in the whole collection. Primrose, the colour of which is true to its name, has remarkably substantial flowers. Ruby is a charming variety of a rich crimson scarlet colour, and Luteum roseum has blooms tinted delicate rose on a pale yellow ground, producing a most charming shade. Jasminiflorum carminatum, which, as its name implies, is of a carmine colour, and is undoubtedly a most free flowering variety, splendid trusses being produced on every shoot, even when the plants are only 6 or 8 inches high. Maiden's Blush is one of the best, and is moreover useful, being very free. Favourite, rose coloured, is a superb flower, the truss being good and the individual blooms of much substance. Duchess of Connaught is a deep crimson, and Princess Alexandra has delicate blush white flowers, throwing large trusses most profusely. Princess Royal, pale rose; two seedlings, a pure white, and a delicate pink with a pure white tube, were also noticeable; and the same may be said of two doubles of the Balsaminæflorum section—album, pure white, and aurum, pale yellow. The trusses of the two latter are most compact, while the individual flowers are equally as large as a full-sized Balsam. These plants are eminently suitable for decorative purposes, and the blooms for bouquets or buttonholes, with which advantages they should become universally popular amongst amateurs as well as in private gardens, where it is needless to add they are already largely grown.—H. W.

— *LILIUM MARTAGON* FL.-PL.—In a recent issue of the *Journal* I mentioned this Lily, and said that I had never met with it. Much to my surprise, within a few days of the publication of the note I had a post-card from a friend in Alexandria, N.B., in whose garden I had been only a few days before, with the information that he had the double Martagon Lily. It is, as one would expect, quite hardy with him; but the flower heads when in bud are sometimes "burned" by spring frosts. The garden is close to the river Leven, and lies low, which will account for the destruction of the flowers so late in the season. In the revived taste for hardy Lilies this scarce variety will hardly be forgotten.—S. ARNOTT.

— *FOURCROYA* IN FLOWER.—A large plant of *Fourcroya* is now in flower in the conservatory of the Royal Botanic Society. The Secretary of the Society referred to it at a recent meeting of the Council. The plant is sometimes called the Century Plant, the idea being that it flowers only once in a hundred years. In reality the flower is produced only once in the life of the plant, the duration or term of life varying considerably, according to the treatment the plants individually receive. Specimens of the *Agave americana* have flowered in the Royal Botanic Society's garden, the ages of them being well authenticated as over eighty years; but the plant is known to flower in warmer climes before twenty years of age. The present specimen of *Fourcroya* is between twenty and thirty years old. It began on August 1st last to produce its flower spike, which, although the plant is slow-growing generally, developed at a rapid pace, so that on September 15th the tip had reached the glass roof. A square of glass being removed, the flower spike continued its growth, and it is now some 3 feet or 4 feet above the ridge, a total of over 30 feet in height. The leaves vary from 6 feet to 7 feet in length.

— *AGAPANTHUS UMBELLATUS*.—I can endorse the remarks (page 323) made by Mr. Parrant on the usefulness of this plant for such places as he mentions. I have a plant standing on the terrace where it was placed as soon as the spring frosts were over, and it has carried thirteen umbels of clear blue flowers, being a great contrast to the large variegated *Agaves* on each side. I have seen it employed with good effect in sub-tropical beds and remain out all the winter, but the foliage dies down and a thick covering of ashes is needed to keep frost from their crowns; but to see a plant in its real beauty it should have a place in a large conservatory, as the cutting winds damage the foliage more or less out of doors. We have two plants in pots; the flower heads have just been cut off, but the stems are still visible. One has had eighteen spikes of bloom, some carrying over 150 flowers, the average of the eighteen spikes being 123. This plant was exhibited at our local Show in July last in a class for four stove or greenhouse plants, and was specially mentioned by the press. The other is out of doors as before mentioned.—WM. SPENCER, *Errismore, Birkdale Park, Southport*.

— *MONTBRETIA CROCOSMÆFLORA*.—This is mentioned on p. 329 of the *Journal of Horticulture*. May I briefly remark (1) as to the spelling of the name *crocasmæflora*? I believe your correspondent spells it quite correctly as here, but it is not usually so spelt. The name *Crocasma* was given to a genus separated from *Tritonia* by the French botanist Planchon. Though in Nicholson's Dictionary and in most catalogues I find the name written *Crocasmia*, yet in Hooker's "*Genera Plantarum*" it is *Crocasma*, a word coined on the same model as *Coprosma* and *Diosma*. Though the only classical name I recollect of the same form *Onosma*, is of the neuter gender, the givers of the other names have exercised the privilege of making the names given by them of what gender they please, and have made them feminine; therefore *Crocasmæflora* is the correct form. (2), It is not clear whether "H. W. W." recommends these as hardy plants. When I wrote lately to M. Lemoine of Nancy, who raised the varieties and from whom I bought most of them as they came out, complaining that none of them except *Etoile de Feu* had survived the winter in the open, he replied that they were not intended to be hardy; that at Nancy none of them, not even the less tender *M. Pottsi*, ever survive the winter without the protection of a cone of straw or of dried leaves, or some such shelter over them. Gardeners in England have no doubt had varied experience of them; many I know have lost them, others protected them. One of my friends tells me that lifting in October dries the growth sufficiently, even if they are planted again directly, to make them withstand the frost of ordinary winters. The safest plan, which I shall now adopt, is to treat them, as I used in old days to treat with success *Crocasma* (*Tritonia*) *aurea*—namely, to pot them, and cover the pots with 6 inches or more of coal ashes, in any sheltered part of the garden.—C. WOLLEY DOD, *Edge Hall, Malpas*.

— *STEVENSONIA GRANDIFOLIA*.—A large specimen, probably the largest in Europe, of this rare Palm, and which has long been a feature in the Palm House at Kew, is now flowering for the first time, says the "Kew Bulletin." It is a native of the Seychelles, where it was discovered by Duncan, who sent three small plants of it to Kew in 1855, one of which was soon afterwards stolen. Probably the specimen now flowering is one of the other two, although in J. Smith's Kew Records it is stated that "four months after my retirement, in May, 1864, I learned that these two rare Palms were dead." The genus is monotypic and endemic in the Seychelles, where it grows to a height of 40 to 50 feet. The Kew specimen is 30 feet high, and has a slender, spineless stem. The leaves are cuneate, obovate, bifid, lacinated, 7 feet long and 5 feet wide, green, spotted with rusty red. The inflorescence is an erect branched panicle 3 feet long, clothed with yellow flowers. A figure of the plant has been prepared for publication in the "Botanical Magazine."

— HARDY PLANTS AT KEW.—The collection of hardy herbaceous plants at Kew, an exceptionally rich one, is accommodated mainly in the formal beds in the herbaceous ground and in the rockery, where collective interest rather than effect is aimed at. Many of the larger and showier species, however, require a bolder arrangement and more space than would be afforded in the herbaceous ground, and to provide this a large border, previously planted with mixed shrubs, was cleared, trenched, heavily manured, and planted in the spring with large flowered herbaceous perennials and annuals. The border, which is on the west side of the T Range, is 350 feet long and 20 feet wide, and from the end of June till the end of September it has been a great attraction to visitors. The plants grown in it are perennial Sunflowers, Dahlias, Phloxes, Hollyhocks, Gladioli, Sweet Peas, Rudbeckias, Asters, Pentstemons, Stocks, Poppies, Peonies, Foxgloves, and a large selection of other plants. Each kind is represented by a large bold mass. A few ornamental flowering shrubs, such as Roses, Spiræas, Genistas, and also a few evergreens for winter effect are mixed with the herbaceous plants.—("Kew Bulletin.")

— SEEDLING POTATOES.—The large number of new varieties of Potatoes presented for adjudication at the recent Earl's Court Exhibition proves that there is still very much of activity amongst raisers, and that the absence of ample opportunities to exhibit new Potatoes, and the comparatively low price of produce, has not materially checked enterprise on the part of those who look for some return for their labour. It is very doubtful whether any form of hybridisation or cross-fertilisation has ever been less profitable to those undertaking it than has the raising of new varieties of Potatoes. It is inevitable that out, perhaps, of fifty or a hundred seedlings, all of which must be grown, probably, two years in succession before being fairly tested, that some 60 per cent. will have to be sacrificed. After a third year's trial the remainder 60 per cent. of these go, so that the varieties are ere being put into commerce whittled down to perhaps half a dozen. Fortunate is the raiser who has so many that are really good. For exhibition purposes we, of course, want diversity in colour as well as in general appearance. Still, coloured Potatoes find a very limited demand; we want chiefly in addition to fine table quality and great productiveness, thorough distinctness, as already we have, especially of the flattish round type, a dozen varieties at least of which were the tubers mixed up it would be impossible for anyone to distinguish them. A very strong feeling was expressed at the recent Potato Show that some form of national exhibition of Potatoes should be revived. I should very much like to see that wish realised. There is ample room, but it should be conducted solely by a responsible committee, and not by one individual. I think it would be an excellent plan were a meeting of all interested in Potatoes and their culture, held on one of the days of the next Aquarium Show, and a Potato Society or Exhibition Committee might be formed that would command confidence and justify it.—A. D.

— *ARISTOLOCHIA GIGAS* AND *A. G. STURTEVANTII*.—No doubt considerable stir was created in June and July, 1841, when *Aristolochia gigas* flowered for the first time in England at the Royal Horticultural Society's Gardens, Chiswick. It had been sent home by Hartweg from Guatemala, and the first flower was produced on a small plant grown in a pot. For a long time little was heard of the Giant Birthworts, with the exception of an occasional example of *A. Goldiana*, until in the summer and autumn of 1891 a fine plant of *A. gigas* var. *Sturtevantii*, sent by Mr. E. Sturtevant of New Jersey, produced its enormous flowers in the Victoria Lily House at the Royal Gardens, Kew. This variety differs from the type in having larger flowers and much deeper colouring, as a glance at the figure in the "Botanical Register" for 1842 will readily show. The press, gardening, daily and local, noted the new

comer, and papers of the two latter classes published sensational articles concerning the size, properties, &c., of this wonderful flower, the result of which was an increased attendance of curious if not well informed visitors. Many laboured under the impression that the plant was carnivorous and had to be fed through the opening in the centre of the flower. To my personal knowledge one lady who had heard of the *Aristolochia's* frog-eating propensity brought a poor little frog in a small card-board box, whose life was to be sacrificed to satisfy her curiosity; correct information was of no avail, and she was finally dismissed as it was past "feeding time." In the *Journal of Horticulture* for October 29th, 1891 (fig. 73) is a figure of *A. gigas*, which gives the veinings and mottlings very distinctly, but the tail seems abbreviated. The flowers are about 16 by 20 inches, with tails often almost a yard long; the centre is deep maroon, while the body of the flower is deep purple and crimson blotches and patches interveined with creamy white or pale rose. In early morning when first they open the stench is something abominable. The popular name for this fine stove climber is the 'Pelican Flower,' given in consequence of the buds resembling that bird in shape. The plants are readily propagated by cuttings, and I believe that a considerable number have been distributed through the country. Small plants occasionally flower, as was shown at Westminster on Tuesday, 20th September, when a plant in flower grown in a pot was exhibited by Messrs. F. Ross & Co. of Merstham, Surrey, and received a first-class certificate. A large plant has been flowering profusely planted out in the old Lily house (close to the Palm house) at Kew.—C. K.

THE POTATO DISEASE.

THE admirable detailed report on Messrs. Carter & Co.'s experiments, which appeared in your issue for September 22nd, was both interesting and instructive. There can be no doubt the dressing was effectual. Potatoes have been so seriously attacked in these gardens during the past three years that we were compelled reluctantly to discard some of the varieties, while in an open field some of the same sorts were good, scarcely a diseased tuber amongst them. I had decided to discard Beauty of Hebron another year. It is such a splendid Potato and such an abundant cropper that we do not like to part with it, and since Messrs. Carter's experiments have proved so satisfactory we shall retain it and dress a portion, while a part shall be left undressed next year.

Attention is wisely drawn in the report to planting the Potato a good distance apart between the rows. I have long since arrived at the conclusion that a much larger crop of tubers can be obtained from land in good heart when the rows are placed 3 feet apart than if the same ground was planted with the same kind only 2 feet apart. For years I have been in the habit of planting early varieties, such as Covent Garden, Myatt's, and others in rows 3 feet asunder to allow of early Brussels Sprouts between them. The Potatoes have grown twice as strong as those planted 1 foot less; in fact, they grow so well and crop so heavily that the Brussels Sprouts have only a poor chance unless they are very early and get ahead of the Potatoes.

One thing I particularly noticed in the report of the experiments in question, namely, that no allusion was made to the ground, or whether manure was applied for the crop or not. It would be interesting if Messrs. Carter would supply this information, and the weight of manure per acre, also if the land had been heavily manured in previous years. The condition of the land in this respect might influence largely any experiments that may be tried in the direction in which they have been so successful. I am not drawing attention to this matter for the mere purpose of criticising the report, but to elicit further knowledge on the subject, which will no doubt be freely given. I have always found that the heaviest crops are obtained from well-manured ground, but the tubers are much more seriously attacked by the dreaded murrain than those grown in fields in poorer soil. The heaviest crops of Potatoes are generally obtained in gardens, and these are frequently very heavily manured, in fact too heavily to produce tubers of the best quality free from disease. For some years I have tried to exhaust the ground before planting Potatoes upon it, by such crops of Broccoli, Brussels Sprouts, Cabbage, and Cauliflowers.

I have found on heavily manured land that has been devoted to garden crops for a number of years that a good dressing of lime before planting has been very effectual, and on the portions dressed we have had very few, and in some cases no diseased tubers.—WM. BARDNEY, *Osmaston Manor*.

[We shall be obliged if Messrs. Carter & Co. will supply the information suggested, and doubtless some of our readers will be glad if Mr. Bardney will explain the quantity of lime per rod and acre he regards as a "good dressing."]



JAPANESE CHRYSANTHEMUM, BEAUTY OF EXMOUTH.

AMONG the many new Chrysanthemums that are being constantly introduced Beauty of Exmouth, represented in the illustration (fig. 48), is destined to take a high place. This is a beautiful variety, and will probably be grown extensively, with the result of being seen in many stands next year. Beauty of Exmouth was raised from seed by Mr. W. J. Godfrey, Exmouth, and is the result of a cross between *Avalanche* and *Stanstead Surprise*, the former being the seed-bearing parent. The blooms, although large, are entirely devoid of coarseness, and are of a pure ivory white. The florets are of good substance, medium width, and curl gracefully, as shown in the sketch. The raiser informs us the plant is a sturdy grower, averaging 4 or 5 feet in height, and possesses an exceptionally good constitution. Moreover, Mr. Godfrey states that "it can be had in bloom from October to January." It will therefore be seen that Beauty of Exmouth justly merited the first-class certificate awarded to it by the National Chrysanthemum Society at the Royal Aquarium last week. It may be interesting to growers to add that *Duchess of Devonshire*, another promising variety of a rosy purple colour, also exhibited last week by Mr. Godfrey, was procured from the same batch of seedlings as Beauty of Exmouth.

[Just on going to press an extraordinary letter reaches us, containing grave allegations against one member of the Floral Committee of the N.C.S. in particular, and we may have something to say on the subject another week. The information supplied to us is of a rather startling nature, and demands serious consideration.]

WHITE CHRYSANTHEMUMS.

OUR Chrysanthemum growers are finding it very difficult to keep pace with the new varieties introduced with such abundance, especially of the white section. We seem to have got in this colour varieties so perfect that it is very difficult indeed to excel them, and yet we suppose some new ones will turn up trumps, even excelling *Avalanche* and *Stanstead White*. Now the premier coloured variety of the Japanese section last year was undoubtedly *Vivian Morel*, and it is not a matter for wonder that a white sport apparently an absolute reproduction in pure white of that fine variety, should create the liveliest interest. I do not know whether anyone else has that sport besides Mr. Wells of Earlswood, but he certainly has it in quantity. He told me that he had upwards of 1000 *Vivian Morel*, and of these he looked to find a very large number of the pure white form when they flowered. His plants shown at the Aquarium from spring root cuttings were but 18 inches in height, and carrying their very large though not fully expanded blooms.—A. D.

LARGE JAPANESE BLOOMS.

I COULD not attend the Conference held at the Royal Aquarium respecting increasing the size of the flower stands to accommodate the huge flowers now being produced in far too abundant quantities, but everyone, of course, recognises the difficulty experienced in providing broader boards and boxes. Could not the difficulty be met by putting certain recognised blooms into a big-flowered section, giving them special classes and excluding them from other classes? That would give the smaller but more refined and beautiful flowers a chance. Then to meet the case of the big blooms, let boxes that now hold twelve flowers be utilised to contain nine only, the flowers being angled, so as to give each one ample room; that would necessitate classes for nine blooms or ten blooms, taking the place of twelve and twenty-four, but, of course, only for the big ones. These huge flowers are on the whole so coarse, they evidence such lack of quality and refinement, that it hardly seems worth while to do more to encourage them than is suggested. Any flower exceeding, say, so many inches in diameter should be classed as a big bloom.—D.

PLANTS AND PROSPECTS ABOUT SHEFFIELD.

THE Chrysanthemum season now fast approaching bids fair in this district to be of the same interesting and absorbing character as it has been in previous years. For weeks preceding the great Show in the Corn Exchange the flowers that are likely to figure there are inspected, criticised, and admired by hosts of weekly pilgrims, who invade the amateurs' and cottagers' greenhouses to see their productions and note the development of the blooms. They also make comparisons with the flowers they have previously seen in a similar call upon other growers. On such days the amateur Chrysanthemum grower keeps "open house." His flowers are there to be seen and enjoyed. He does not shut himself in with a pious reserve, and keep the glory of his white, golden, bronze, and purple blooms entirely for his own pleasure, but with a wide generosity good naturedly welcomes every comer. Being such an

admirable town flower the Chrysanthemum is grown by many a humble cottager who can afford a little plot of ground and a rough greenhouse. The spirit and energy he puts into the work influences the world about him for good, enriches his own environments, opens out

in Sheffield and district are grown by amateurs who devote a large portion of their leisure time to the work. There are, however, many professional gardeners who possess facilities and have the time to produce fine blooms and plants for exhibition. There are numerous others who



FIG. 48.—JAPANESE CHRYSANTHEMUM, BEAUTY OF EXMOUTH.

the possibilities of Nature, and materially brightens unfavourable surroundings. Therefore it is creditable to a town like Sheffield that so many of its hardworking toilers have become capable in the higher cultivation of the "autumn queen." Still larger numbers every year are imitating their example, thereby widening the popular interest in its culture.

It may be said that the majority of blooms cultivated for exhibition

cultivate in good style and form, but do not exhibit publicly. A few notes on each class of growers may be of interest.

FIVE OAKS, GLOSSOP ROAD.

One of the most successful exhibitors of plants is Mr. W. Redmill, gardener to J. G. Lowood, Esq., Five Oaks, Glossop Road, Sheffield. Mr.

Redmill has set up a line of his own which previously had not been attempted in Sheffield. The group of dwarf plants he staged last year was the admiration of every visitor to the exhibition. It was an educational model of no mean order, placing as it did the Chrysanthemum in a new and interesting light of which growers with small houses might take advantage. Recently the idea was prevalent that large blooms could only be grown on plants of abnormal height; the group in question proved that splendid flowers could be obtained on dwarf plants a foot only in height which formed the front edge of his unique group, while the other specimens forming it showed how accommodating the Chrysanthemum is in regard to obtaining plants of various heights. Mr. Redmill has again this year a similar collection of dwarf plants which early in the month, after being housed, arranged, and properly staked and tied, presented a very promising appearance. Most of the plants are confined to one bloom only, which admits of smaller pots being used—a great advantage in grouping, as well as a better effect being obtained where one stem with one flower only can be fixed at discretion.

The plants are remarkably strong, with healthy, leathery, deep green foliage. The buds of many have reached a fair size, though generally he considers his plants quite a fortnight late. Among the most promising varieties are Vivand Morel, W. H. Lincoln, Criterion, E. Molyneux, Etoile de Lyon, Avalanche, Sunflower, Puritan, W. W. Coles, and Mons. Bernard. Some of the new varieties are being tried, among them being W. H. Tricker, Sunset (likely to be a very striking variety), Lizzie Cartledge, R. Ballantine (a new yellow hairy variety), J. Stanborough Dibbens, Beauty of Castlewood, George Atkinson, and others. G. C. Schwabe, Edwin Beckett, Mrs. E. Beckett, and Wm. Tunnington are receiving good attention, flowers being grown on both crown and terminal buds, to ascertain which is best. Wm. Tunnington is not yet a popular variety, but Mr. Redmill hopes to obtain a good bloom this season. A splendid bloom of Mrs. Alpheus Hardy was developing. A plant of Edwin Molyneux, carrying several incurved blooms on crown buds, was receiving treatment to retard their full development as long as possible; so also was Bouquet des Dames, an ivory white reflexed Japanese, a most beautiful early variety. These stood in a wooden shed under a north wall. The new incurved variety, Mons. R. Bahuant, has the fault of being too early. Endeavour was made to keep it back by placing it under the shade of a north wall. The leading incurved varieties are well represented by the best varieties, all of which are strong, healthy, and promising.

TAPTON HALL.

Chrysanthemums here are grown chiefly for supplying flowers for cutting, but enough are cultivated to comfortably fill two large Peach houses without detriment to the permanent occupants or undue crowding of the Chrysanthemums themselves. The plants are not massively grown, but are of medium strength, carrying three and four blooms each. Buds are fairly large, promising to give excellent blooms. They are taken both on crown and terminal shoots, according as the cultivator has determined from experience and experiment which is best for any particular variety. The plants are very creditable to the gardener, Mr. F. Hardy, and will shortly make a most attractive and interesting display, as both early and late varieties are well represented, as well as many of the best new varieties.

BIRCHLANDS.

Here, the residence of Frank Mappin, Esq., J.P., there is a large and lofty structure set apart wholly for the display of Chrysanthemums. The gardener, Mr. Farrow, is an excellent cultivator, and provides a display equal if not surpassing any in the district. His collection includes all the best of the standard varieties, both Japanese and incurved. The plants are arranged in one long, broad, rectangular bank, facing the principal door of the large conservatory. On each side of the door a square bank of dwarf plants are arranged. Very dwarf plants are not used, as in such a large arrangement they would be quite out of place. By the second or third week in November the display will be at its best, and according to present indications the flowers will be of superb excellence, the wood being very firm, the buds large and promising, and the foliage as healthy and fine as could be wished for.

AMATEURS' PLANTS.—MR. JAMES HARRISON'S, WALKLEY.

Amateurs' collections are not characterised by that neatness and taste in arrangement as are those of professionals, but they are not one whit behind in the condition of general strength and vigour of their plants. Mr. Harrison's plants are always remarkable for their extraordinary vigour. Owing to this he generally succeeds in obtaining some magnificent blooms. He has already exhibited some splendid blooms of Mdle. Lacroix and Jeanne d'Arc at a small local show. Several other varieties are developing early blooms. Criterion is well forward, while Sunflower, Belle Paule, Edwin Molyneux, and several others have exceptionally fine buds. Etoile de Lyon, which on crown buds gives coarse flowers of the wrong colour, has good buds on terminal shoots.

Mr. Harrison is not growing any new varieties this year, as he finds it more profitable to trust to the proved standard varieties which occupy leading places. However, as he becomes convinced of the merits of the newer varieties he will add them to his collection. As a practical grower he is fully aware of the stress and strain which new varieties undergo in the endeavours to propagate stock largely and quickly; and perhaps wisely, being a hard-working busy man, resolves

to wait until plants are stronger. Mr. Harrison's regard for the Chrysanthemum also extends to the early flowering kinds, numerous plants of which he has grown in the open ground, lifted and potted. The variety he favours most is White St. Crouts, a few plants also of Mrs. Cullingford, Chromatella, and several others being grown.

MR. H. BROOMHEAD.

Mr. Broomhead is a leader among amateurs, and takes a just pride in forwarding the cultivation and knowledge of the Chrysanthemum by every means in his power. His display this year will be of considerable educational value, as he possesses a large number of new varieties which it will be interesting to note. Many of them are strong, sturdy, and dwarf in habit, and when it has been ascertained which buds—crown or terminals—are best to take they will no doubt prove to be acquisitions, and take a front place in a list of varieties that do well in the district. In addition to these he has a fine representative collection of all the best standard show varieties. The plants throughout are well grown, stout, and firm in wood and foliage. The buds are prominent and well forward with the majority. One house is almost wholly occupied with varieties that either are naturally late or are grown with later buds. This will give a succession of bloom proving useful. The bulk of the plants are arranged in a large light house, which in a few weeks will be a great attraction, affording both interest and instruction to a large body of admirers and growers in and around the district.—E. D. S.

PRIZES, SCHEDULES, 1892.

WITHIN the next six weeks no less than 100 exhibitions of Chrysanthemums will be held—abundant evidence of the attractiveness and popularity of the autumn queen. It is impossible to note more than the principal prizes offered in a few of what are termed leading exhibitions, and a brief reference to some of these may be of interest to Chrysanthemum readers.

What may be termed the commencement of the regular show season begins at Gosport on the 27th October. The Society, however, does not create more than a local interest. Havant follows on the 28th with their ninth autumn Exhibition. Hitherto the prizes have all been confined to a radius, but this year many are thrown open—a step in the right direction. The shows of the last three years have brought out remarkably good cut blooms, and at no exhibition in the United Kingdom are single Chrysanthemums so well represented as here. Those who have seen this section staged in the best condition know what beauty they possess.

The Brighton Show will be held as usual in the Royal Pavilion on November 1st. The principal class is for forty-eight cut blooms, the first prize being £10. On the following day several important fixtures take place. Ascot, for instance, at which, perhaps, the best groups of Chrysanthemums are to be seen. Another special feature of this Society is the extent and high quality of the cut blooms in the reflexed section, special encouragement being given to this class.

The Portsmouth meeting is fixed for the same day as usual (November 2nd). This Society is the pioneer of cheap admission with a view to encourage the lower class to take an interest in floriculture, and especially the Chrysanthemum. The Show itself has for some years been looked upon as the best south of London, and equal to any, even in the metropolis, and certainly much superior to many in northern towns. This year £10, £7, £5, £3, and £1 10s. are offered for forty-eight cut blooms, instead of a challenge cup or vase as in the past. The conditions of entry are easy, only eighteen varieties being required in the incurved and Japanese sections, the blooms to be half of each. £5, £3, £2, and £1 are also offered for twenty-four distinct varieties, half to be incurved and the remainder Japanese, which prizes ought to bring the finest exhibits possible. There are no less than thirty classes altogether devoted to cut blooms in addition to several for epergne and other forms of decoration. Good prizes are also given for groups. The end of the same week will see the usual brilliant gathering at the Crystal Palace, Sydenham, which is really the commencement of the London programme. At no Exhibition is the competition so brisk as here, except perhaps at Birmingham.

The following week is perhaps the most busy of all. On Tuesday 8th the "National" holds its annual meeting at the Royal Aquarium, and Kingston as usual in the Drill Hall. At the former, in addition to the competition open to societies only for forty-eight blooms, the premier award being the usual trophy and £10, the Holmes Memorial challenge cups with money prizes of £10, £7, and £4 are offered in separate classes for incurved and Japanese blooms, thirty-six in the former and forty-eight in the latter, all to be distinct. These two are the most gigantic classes ever offered in the matter of varieties, and will put to the test the fullest capacity of any grower, private or otherwise. None but the largest cultivators can expect to compete, therefore the entry cannot be a large one. An opportunity is here given for the inclusion of some of the smaller kinds of incurved blooms which are now seldom seen. Although the Japanese section is a wide one forty-eight distinct and meritorious blooms will require some staging by one person. A splendid opportunity is afforded of testing the suggested increase in the size of the stands for Japanese blooms as there are no restrictions in this respect. Space forbids me saying anything about the remaining thirty-seven classes for cut blooms only, which affords ample opportunity for all classes of competitors.

At Kingston there is the usual challenge vase with £5 added as first prize for forty-eight distinct blooms—a thorough test of the cultural skill

of anyone. Mr. Carpenter was successful last year, and will no doubt do his best to retain the honour, although I hear he will have to look to his laurels. Numerous other valuable prizes are offered, sufficient to make a most attractive exhibition in themselves.

Birmingham, long recognised as the Chrysanthemum centre of the Midlands, hold its Show on the 8th also, making the thirty-second exhibition held in this busy town. This Society has obtained the credit of being the initiator of large prizes for cut blooms, and also obtained the record in the number of competitors, no less than eighteen competing in the class for forty-eight blooms in the year 1890. This year a proposition was carried, by a bare majority of the Committee, to divide the large class. For this change it is difficult to assign a reason after the brilliant successes of the past. The classes now are twenty-four incurved, distinct, for which six prizes are offered, ranging from £10 down to £1, a similar class being also arranged for Japanese. Time alone will prove the wisdom or otherwise of this step. Prizes of £10, £7, £5, £3 are also offered here for a group of Chrysanthemums, which will no doubt bring out good results, as in the past.

Bristol inaugurates its twenty-ninth season on the 16th in the Colston Hall. This Society has long been recognised as the leading one in the West of England. For some reason or other the Committee have dropped their large prize, being content with offering one of £5 for twenty-four incurved in not less than eighteen varieties. Beside this there are numerous other smaller classes, quite sufficient to provide a display equal to any of the past.

Liverpool, I ought to have previously mentioned, holds its Show on the 15th as usual in St. George's Hall. This has for a number of years been regarded as the pioneer of northern exhibitions. Perhaps nowhere is the competition so keen throughout as here. The neighbourhood abounds with gentlemen who almost to a man encourage the growth of Chrysanthemums. There is one blemish which I cannot but point out—the indifferent manner in which the small-flowered sections, such as Pompons, Anemone Pompons, singles, and even Anemone varieties are cultivated and exhibited at this centre.

On the following day York and Hull commence their shows, both being well supported by exhibitors and public alike. The latter perhaps is the more important of the two, offering as they do greater inducements to exhibitors. This Society can justly lay claim to offering the largest prizes for cut blooms this year. No less a sum than £10, in addition to a silver cup, heads the prize list for twenty-four incurved. The class is made easier also for exhibitors through its not being distinct. Duplicates are allowed in six blooms. The Japanese blooms are provided for in a similar manner as regards the amount of prizes, the only difference is that they must be distinct—a reasonable clause in this case. Numerous small classes are also provided for open competition. The same remark applies to amateurs also, and to those who reside within a given radius. This Society is also noteworthy for offering the largest prizes for a group of Chrysanthemums interspersed with foliage plants. No less a sum than £6 is offered in addition to the 20-guinea challenge cup offered by G. Bohn, Esq., as the first prize. It is not too much to say that this Society has the best exhibits of this kind of any Society in existence. Those persons who admire skilful arrangement of flowering and foliage plants combined during the dull month of November should go to the Artillery Barracks in Hull, and if they are not impervious in this respect they will not regret the journey, be it long or short.

Edinburgh follows the next day to Hull, the site, as usual, being the Waverley Market, which has no equal in the kingdom for such a display. No society that I know has made such rapid progress in the quality and quantity of the exhibits in such a short space as this—the Scottish Horticultural Association. Offering most liberal prizes, the management have ample grounds for such an undertaking, and being practical men there is no wonder at the progress made on the other side of the border. True, the standard in the incurved flowers falls below that usually seen in England, the bulk of their strength lying in the quality of the Japanese blooms.—E. MOLYNEUX.

NATIONAL CHRYSANTHEMUM SOCIETY.

CONFERENCE AT THE ROYAL AQUARIUM—OCTOBER 12TH.

As briefly announced in our last issue, a conference was held, under the auspices of the National Chrysanthemum Society, at the Royal Aquarium, Westminster, on the above date, to consider the advisability of increasing the size of show-boards for exhibiting Japanese blooms. Sir Edwin Saunders, the President of the Society, occupied the chair, and he was supported by Mr. R. Falconer Jameson (who had come especially from Hull for the purpose of attending the conference), Mr. R. Ballentine, and Mr. R. Dean, the Secretary. About one hundred members were present, amongst them being many of the leading Chrysanthemum growers.

After a few introductory remarks from the Chairman, Mr. Dean proceeded to read a number of letters which he had received from affiliated societies, in response to a circular asking for opinions as to the proposed alterations. The majority of these thought that an increase of size was necessary, whilst a few considered the existing boards large enough. Mr. Rundle, however, who represented the Leicester Chrysanthemum Society, said that the committee of the latter organisation thought an alteration most desirable, the boards for various numbers of blooms being made proportionately larger than those now in general use. A paper by Mr. C. E. Shea (who, being in Italy, was unable to be present) was then read by Mr. R. Dean, following which came essays by Mr. R.

Falconer Jameson and Mr. Herbert Fowler. The papers, which pressure on our space compels us to slightly abridge, are given below.

SHOW-BOARDS FOR JAPANESE CHRYSANTHEMUMS.

BY MR. CHARLES E. SHEA.

For some seasons past there has been evidence of the existence, on the part of many exhibitors, of a growing feeling of dissatisfaction with the present regulations concerning the show-boards required, or permitted (as the case may be), to be used for the exhibition of Japanese Chrysanthemums. Hence it has been decided, and I think wisely, to take advantage of the present October show to invite a full and free discussion of the subject, with the result, it is to be hoped, that a sufficient expression of opinion on the one side and the other will be obtained, so that the real wishes of the general body of exhibitors may be made apparent for the information and guidance of the Society.

It is obvious that the onus of establishing an affirmative case calling for alteration of the existing practice rests with those who assail it, and it must be remembered that inasmuch as the rules of the National Chrysanthemum Society, and of many other societies also, already permit the exhibitor of Japanese Chrysanthemums to stage his blooms on boards of any size, the case so to be made out must necessarily include the principle of compulsion, as well as proof that the existing regulation boards, with the 6-inch space between the blooms (centre to centre) are insufficient for the requirements of modern showing—at least, so far as the Japanese section is concerned.

For the sake of indicating the lines which the discussion must necessarily take, I would say that we who accept this *onus probandi* must be prepared to prove:—

1, That uniformity of method of exhibition is so essential, or at least desirable, that compulsion upon the subject ought to prevail.

2, That (the necessity for compulsion established) the existing regulation stand is insufficient for the adequate display of the Japanese Chrysanthemum, and that the necessity for an alteration outweighs the objections which may be urged against it. Then

Lastly, The dimensions of the new board which shall be accepted as the regulation show-board of the National Chrysanthemum Society and its affiliated societies, and doubtless, of most if not all, of the leading Chrysanthemum Societies throughout the country.

We have thus the map, or plan, of the discussion before us. Let us at once deal with point No. 1, compulsion, compulsory uniformity.

One argument in favour of enforced uniformity at once presents itself, that of analogy. We have but to look at the methods of exhibition of other flowers, notably of the great sister-queen—the Rose—to see that uniformity of staging is held to be an essential of fair competition. And I think that it requires but little consideration to recognise that this view is the correct one. The object of competitive exhibition is to test the comparative excellence of rival blooms, and it is obvious that it must tend to render this test more effectual if the conditions under which the several blooms are presented to the eye of the judge are as nearly as possible identical. In all scientific analyses and comparative examination all matters tending to create varying conditions are carefully eliminated, and why should it be otherwise with the judgment of the comparative excellence of flowers? It is a matter of common knowledge that the eye is very easily deceived as to the relative dimensions of two bodies of the same size but presented to the eye under different conditions, and some very ingenious devices, having this scientific fact for their basis, have been utilised as advertisements for Pears' soap. So it is a fact beyond question that if the blooms of one exhibitor are staged on a stand with 6 inch, and another with 7 inch or 8 inch spaces, the eye of the judge will, in greater or less degree, be misled. And there is no room for such misleading when the results of twelve months of patient and skilful care are submitted for judgment, and the reputation of the exhibitor is at stake. So long as the size of the show-board is merely a matter of option a prudent exhibitor will hesitate to adopt a larger stand for his own exhibit while his opponent is using a board which gives to the blooms a relatively larger apparent size, and, by crowding them together, gives to a weak and shallow bloom the appearance of a solidity which it does not possess. All the surroundings of competitive exhibition ought, as far as possible, to be uniform, and it is, in my judgment, a fit matter for compulsion that, as with Roses so with Chrysanthemums, blooms should be staged by exhibitors upon stands of similar dimensions.

We now reach the second point. Are the present show-boards, with the 6-inch spaces, sufficient for the effective exhibition of the Japanese Chrysanthemums of the present day? At first sight the reflection naturally presents itself, that, inasmuch as the present boards were devised very many years ago when the blooms were not nearly of the dimensions now attained, either those who were then responsible for the selection of the dimensions were very much at sea upon the subject, or the dimensions then fixed must necessarily be entirely insufficient for present day requirements. It is difficult to avoid one or other of these alternatives. But, passing from mere inference to the evidence of our own personal experience, can we fairly say that the Japanese blooms of the present day can be satisfactorily judged when staged upon the present boards? My own opinion and experience is that it is not possible. It is, with certain obvious exceptions, doubtless substantially true, as stated by Mr. Norman Davis, that the present increase in dimensions of the blooms "is not so much in size (diameter I presume is meant), but in the depth and solidity of the blooms." And it is just these important aspects of depth and solidity which it is impossible for the judges to accurately estimate when the blooms are so crowded that

they touch each other. It is true, as Mr. Davis also says, that only two blooms on a 12-board touch each other at all four points, but six more touch at three points, while the corner blooms touch at two. This alone is quite sufficient to impede satisfactory judging. It must be remembered that judges rarely have more time, generally less, than they require for the proper discharge of their functions, and it is impossible for many reasons that they should lift every bloom from the "general conglomerate mass of interlacing petals," which is almost the correct way of describing a modern show-stand in the smaller classes. Everything ought to be so arranged that the judges can, with the least expenditure of time and trouble, satisfy themselves as to how far each individual flower realises, or falls short of, those essentials of diameter, depth, and solidity which go to make up the perfect show bloom. And this becomes the more important in face of the growing demand that, in all close and important competitions, each individual bloom should be "pointed up."

That a striking consensus of opinion on the part of a large number of the leading exhibitors, to the effect that the present regulation show-board is insufficient for the proper exhibition of such giants as *Etoile de Lyon* and its white sport *Lilian Cope*, *Vivian Morel*, *E. Molyneux*, *et hoc genus omne*, was brought to light by Mr. R. Falconer Jameson's circular letter, few will be disposed to deny. But the argument has been brought forward by the worthy Vice-Chairman of the Committee of the National Chrysanthemum Society, that to enforce the use of larger boards would be "practically legislating for the few at the expense of the many." And he proceeds, that "whilst it is perfectly true that a few of our most successful exhibitors find the regulation boards too small, it is an undoubted fact that they are quite large enough for an overwhelming majority of those who show Japanese blooms." Now, I think that it might be replied that even were it conceded that the existing board is large enough for the majority of those who merely show Japanese Chrysanthemums, that fact is entirely beside the practical question, if it be also the fact—and I think it is—that the board is not large enough for those who take the prizes. In other words, the question at issue practically concerns, and only concerns, those who, with more or less regularity, make their appearance in the prize lists. For the larger number who, throughout the country, show, but never, or rarely, take prizes, and who go to make up Mr. Jukes' "overwhelming majority," are, I would submit, unaffected in any real sense by the change which it is proposed to make; nor can it be fairly said that it would be at their expense.

It may be true, as Mr. Jukes puts it, that "small blooms on a board too large for them are much less effective than massive blooms on a small board," and that the former condition of affairs is calculated to "spoil the effect of the exhibit." But we must remember that the substantial object in view is not the "effect of the exhibit" of those who have no chance at all of taking a prize, but the satisfaction of the requirements of those between whom the issue of first, second, and third prize must rest. The exhibitor who in no event can hope for a prize in the class in which he competes can scarcely ask that facilities for accurate judgment of the leading stands shall be withheld simply because their adoption would damage the "effect" of his own exhibit. Considerations of mere sentiment must give way to those of practical utility. And, I would ask, Does it accord with our experience that "only a few of our most successful exhibitors find the regulation boards too small?" The quality of the exhibits of many, if not most, of those who figure in the prize lists at the chief shows throughout the country is fairly well known to me, and I must say that I think that in nearly every case a larger board would have more adequately displayed their exhibits. To my mind, the necessity for some enlargement of the existing regulation board in the interest of a sufficiently large proportion of the successfully competing exhibitors throughout the country has been demonstrated, and I would now pass to a consideration of possible objections to a change on other grounds.

First we have that of expense. That some expense will attend the change is undoubted, but that objection, real and reasonable as it is, within certain limits, must not prevail to arrest a needed reform. We must not spoil showing altogether because of the expense of rendering that showing satisfactory and effective. Boards and boxes wear out, and whether a "period of option" for a season or two, leading to an after period of "compulsory uniformity" might be conceded to meet this point, might perhaps be a matter for the Committee of the National Chrysanthemum Society; but unless the objection be found to be very pressing it would certainly be desirable to give immediate effect to any change which may be decided on. Portability is a real objection so far as it goes; but, again, not of sufficient weight, *per se*, to be set off against the major consideration of a proper exhibition of the flowers. The substantial end cannot be sacrificed to mere consideration of detail. Besides a reasonable and probably sufficient measure of reform may not, after all, so greatly affect the question of portability as some assume. Next, a greater inroad on the space available at the places of exhibition. A substantial objection, but one which it seems to me must be met rather by a limitation of the number of classes where absolutely necessary, than by the sacrifice of the quality of the judging all through the show, for it amounts to that if it be once conceded that the increase in the size of the show-boards is necessary. And besides the small increase which may be found necessary, and that perhaps in Japanese only, would, on the assumption that the Japanese exhibited are equal in number to all the other sections taken together, only mean some 3 inches to a yard of space on the stage. Not so very much after all.

A last objection—"Mixed classes" would look very awkward. Some think not, but that the irregularity which already exists where incurved

are shown side by side with Japanese Chrysanthemums would be scarcely noticeably increased by a slight addition made to the size of the Japanese board. Others are of opinion that if the suggested alteration should lead to the abolition of "mixed classes" altogether so much the better. An opinion which, I must confess, I am inclined to share. Reviewing the various objections which have been urged against an enlargement of the regulation board I think that the conclusion must be, that although some of them have a measure of weight they altogether fail to supply a sufficient reason for withholding the reform which is called for. What then shall be the dimensions of our new regulation Japanese show-board? Looking at the necessity for some enlargement, and giving all due weight to the objections which I have enumerated, I should say that an increase of 1 inch—namely, from 6 to 7 inches between the holes, centre to centre—would reasonably satisfy the requirements of the case. Whether it would be necessary to have a margin, back and front, of full $3\frac{1}{2}$ inches is a moot question. Those who have boxes rather larger than their stands would find 3 inches sufficient, and less space would be taken on the show table. But this is a detail merely.

Some restriction of the system of allowing duplicates would also tend to keep the "giants" in their places, and allow that relief to the space which is afforded by the smaller varieties; and a regulation limiting the diameter of the cup, or disc of card or wire, by which the blooms are extended beyond the position of natural growth, would also help matters. It is, of course, possible that were there no such counter-vailing considerations as those which I have noticed, even a larger increase than I have suggested might be found desirable; but in this matter compromise must come in, and the spirit of moderation should direct our counsels. We shall doubtless hear the opinions of many practical exhibitors, and to the united wisdom and experience of the meeting we can safely leave the decision of the exact size of the future board, but this I would suggest: let that size be settled upon some definite principle, and do not let the point depend upon the average of a number of different suggestions; otherwise reasonable proposals may be altogether negated and swamped by someone's altogether preposterous suggestion—like the 40-inch by 30-inch board for twelve blooms, as proposed by one of his correspondents in answer to the circular of Mr. Falconer Jameson. I am confident that, whatever be the result of the conference, its decision will be heartily endorsed and loyally observed by all true lovers of the Chrysanthemum.

STANDS FOR EXHIBITING JAPANESE BLOOMS.

BY MR. R. FALCONER JAMESON.

IN connection with the question of size of stands for exhibiting Japanese blooms, there are two main points to consider: First, whether it is desirable to increase the present standard size? Secondly, if the first question be answered in the affirmative, how much should the size be increased? I take it for granted that the general feeling would be almost unanimously in favour of the size being enlarged but for the expense which would be entailed upon exhibitors. The Executive of the National Chrysanthemum Society have themselves, for a long time past, admitted that an enlargement is desirable by allowing Japs to be shown on boards of any size. In this I think they have made a great mistake. Had they, instead of allowing boards of any size, stipulated for an alternative size specified by them, the change would have been, to a great extent, effected ere now and without any burden having been cast upon exhibitors.

Who will be so bold as to assert that Japs show to better advantage crushed up one against another, or overlapping one another, than if standing just clear all round? There is beauty of form to be considered as well as beauty of colour, and the former essential is lost when the flowers are crushed out of shape. How, I ask, would incurved blooms look if jammed up one against another? and what applies to incurves applies also to Japs. Does any gardener, in planting shrubs, arrange them overlapping one another? I trow not; he allows a clear space round each one, and if in course of time they increase in size to such an extent as to mar their beauty, he then thins them out.

Personally I deprecate any sudden compulsory change being made, but I suggest, as I have already done in the press, that the National Chrysanthemum Society should, for the present, allow exhibitors the option of using one of two sizes, either the present standard size, or a larger one about to be specified. I feel convinced that if this were done the good sense of exhibitors would lead them to gradually change to the larger size, which, in course of a short time, might be made compulsory without putting exhibitors to great expense. Some will argue that two sizes of boards would destroy uniformity on the show tables, but they must not forget that as at present any size is allowed there is chaos rather than uniformity.

I will now pass to the question of what size should be substituted for the present one. In January last I published the result of replies received in response to a letter I had addressed to some of the leading growers asking their opinions. Out of the thirty-eight replies I received, only two were in favour of the present size being retained, the others voting as follows: One 27 inches by 18 inches, one 27 inches by 20 inches, one 27 inches by 21 inches, two 28 inches by 20 inches, eight 28 inches by 21 inches, six 28 inches by 22 inches, one 30 inches by 21 inches, one 30 inches by 22 inches, one 30 inches by $22\frac{1}{2}$ inches, two 30 inches by 24 inches, one 31 inches by 21 inches, four 32 inches by 24 inches, and two still larger. Of the remainder some do not specify dimensions, while others made various suggestions. It will thus be seen that more are in favour of 28 inches by 21 inches than of any other size,

and this allows 7 inches per bloom in each direction, being 1 inch more than at present. It seems to me very desirable to allow the same space for the blooms in each direction.

ON THE SIZE OF BOARDS.

BY MR. W. HERBERT FOWLER.

THE subject seems to me to divide itself into three heads:—(1) Is any change necessary? (2) If necessary, how large should the new boards be? (3) The best way of carrying out the change.

In considering the first point we have several things which may aid us in coming to a decision. I think few will deny the fact that a large number of the public who come to the shows are asking for a move in the direction of larger boards and more room for the blooms, thus giving them a better chance than at present for critical examination. Then we have the judges to consider. Is it possible for them at present to see anything but a part of the flowers without taking them out of the stands for examination? The enthusiastic grower will surely welcome a change, so that all his flowers will be seen, instead of the front row and the tops of the middle and back rows.

I think that for forty-eight or even thirty-six distinct Japs, the present boards would perhaps carry the blooms without doing them any great injustice, but for all the smaller classes—viz., the sixes, twelves, eighteens, and twenty-fours, I am strongly of opinion that the present size is quite inadequate to carry the large varieties which are now grown. I daresay some will meet this movement with the argument that the present regulations allow of any size board being used for Japanese blooms, and why, therefore, make any compulsory change? I think the answer to this is simply this. If an exhibitor uses a larger board than the ordinary one he at once places himself at a great disadvantage with others who use the regulation one, because his stand if at all equal with the others will appear to be much lighter. The general effect of a crowded stand is to give weight to the stand and *vice versa*—e.g., take twelve blooms and stage them on the regulation board, and then take them out and try a board 6½ inches between the tubes, and you will be surprised to see how much lighter the same blooms appear to be.

Another reason I should give in favour of enlarging the boards is that I think it would induce exhibitors to abstain from using extra wires and endeavouring as far as possible to make all the blooms touch each other. If more space be given it would be more difficult to spread out blooms in an unnatural way in order to get a false appearance of "weight." Such practices would then be much easier to detect. Whilst I am in favour of an enlarged board I am strongly of opinion that whatever the sized board agreed upon may be should be the one used at all exhibitions of the Society for Japanese blooms. The regulation which permits exhibitors to use any sized board for Japanese blooms should be withdrawn and one standard size fixed. This will put all exhibitors on the same footing, and greatly assist the judges in their work. Although I am strongly in favour of an enlarged board, I am against going too far and attempting to introduce a monster board which would have a poor chance of being taken up and becoming popular with exhibitors. I have made several experiments, and in 1890 I adopted 26 inches by 19½ inches as the size of my twelve-bloom boards; this allows 6½ inches from centre to centre of each tube. If, however, the majority think that it should be larger than this I do sincerely trust they will not go beyond 7 inches—viz., 28 inches by 21 inches for the twelve board. It will, I think, be found by experiment that a board 27 inches by 19½ inches will carry even the small classes without doing injustice to the flowers. Another reason against making the boards too large is that it would involve a serious addition to the space necessary to stage a large number of flowers; and again, it would work very badly in the mixed classes if one had to stage the Japs on one sized board and the incurved on another. I trust we shall soon see an end of these classes, as they are in all respects unsatisfactory.

Now we come to the third point, "The best means of carrying out the alteration." I think that the ordinary box is a complete mistake, and I would advise all beginners and those whose old boxes are worn out to adopt the travelling box instead. By this I mean a box with fixed tubes in it, in which the tubes holding the blooms are dropped. The stands for setting up the blooms are carried separately, and the blooms transferred to them on arrival at the show. There are many advantages in this plan. In the first place you can give much more room to each bloom, then you need not fear the effect of a leaky tube, there is no risk of a leg of a stand getting loose and coming down and cutting a bloom in half, and the side blooms will not suffer against the box in a long railway journey, as they often do with the old-fashioned box.

DISCUSSION.

AN interesting discussion followed. Mr. WILLIAM DROVER, Fareham, showed an exhibition board which he had made, and which was of the following dimensions:—28 inches by 21 inches, 3 inches in the front and 8 inches at the back in height, and 7 inches from the centre of each hole. Mr. Drover said that when he was first asked about the size that should be adopted for exhibition boards for Japanese blooms, he was of opinion that the usual sized board would do; but, on further consideration, he thought that a larger stand would be advisable.

Mr. W. H. FOWLER proposed, "That the size of the boards for Japanese blooms for the future be 27 inches by 19½ inches, and that all Japanese blooms be for the future exhibited on such size stands only." Mr. WHITTLE seconded the proposition.

Mr. C. GIBSON moved as an amendment: "That the size of the

boards for Japanese blooms be that recommended by Mr. Drover—viz., 28 inches by 21 inches, 3 inches in front and 8 inches at the back in height, and 7 inches from the centre of each hole." He thought that this size was not at all too large. The blooms would be larger at next month's shows, and a board of the size proposed by Mr. Drover would enable the public to see the beauty of the blooms and also render the task of the judges easier. Mr. H. CANNELL seconded the amendment.

Mr. BALLANTINE, in supporting the amendment, thought it best to go the full length rather than have any half measures. It has been very clearly proved that some change is necessary. The time has come, he said, when exhibitors should change the size of the board, and it would be the better plan to adopt a size which will meet the wants of the future as well as of to-day. Mr. Fowler's board (27 by 19½) would do for the blooms we now have; but if we made the size 28 inches by 21 inches it would meet all the wants of the present day. He had pleasure in supporting the amendment proposed, that the size of board for Japanese blooms should be 28 inches by 21 inches, and that that limit should be compulsory.

Mr. MOORMAN supported the amendment, but observed that there was nothing new in the size board proposed by Mr. Drover. It had been used in 1879 at Southampton, in 1882 and 1883 in the Royal Aquarium, and at Kingston and other places.

Mr. RICHINGS also spoke in favour of the amendment. He said that as at present staged it was impossible to see the full beauty of the blooms or to discover any defects. In fairness, therefore, to the exhibitors and to the public it was most essential that each bloom should stand out on its own merits, and that the judges should be able to see each bloom. He had not heard one argument advanced why the size of the boards should not be increased.

Mr. ROWBOTTOM referred to the desirability of increasing the height of the present board at the back.

Mr. FOWLER thought that the height should be left to the exhibitor. At the present time the board used was only 6 inches in height at the back. As they were not allowed to put the boards higher they put the blooms higher instead.

Mr. FALCONER JAMESON observed that exhibitors might avoid a great deal of the expense which would be caused by a change in the standard size of boxes by using their old trays and boxes for carrying the flowers to and from the shows.

Mr. D. B. CRANE was in favour of the board proposed by Mr. Fowler. He thought it would meet all the requirements of blooms that are exhibited at the present day. He considered that it was most essential that there should be a regular sized board, and in the arrangement of the blooms on the board he was in favour of uniformity.

Mr. H. J. JONES referred to the importance of considering the distance that should be decided on between the holes in the boards. He was in favour of fixing this distance at 7 inches from centre to centre.

Mr. HARMAN PAYNE spoke in the interests of amateurs, cottage growers, and persons of that class, contending that as they are quite unable to produce very large blooms, if a larger exhibition board is insisted on, their somewhat smaller flowers will look rather absurd on such boards. He thought it would be well to add a clause or condition that in the amateur and cottagers' classes the larger board should not be compulsory. The ordinary amateur grower would not, he thought, be able to fill the new board.

Mr. BALLANTINE explained that the whole question would have to go before the General Committee of the Society—the Committee being bound to form its own rules.

The amendment in favour of Mr. Drover's sized board was then put to the meeting and carried by about 38 to 7.

A hearty vote of thanks to the Chairman and to each of the readers of the papers closed the proceedings.

ROYAL HORTICULTURAL SOCIETY.

OCTOBER 18TH.

CONSIDERING the time of year there was an excellent display at the Drill Hall, Westminster, on the above date. Orchids were not particularly numerous, but cut flowers and foliage plants were well shown. As regards fruit it is seldom that such a fine display can be seen on these occasions.

FRUIT COMMITTEE.—Present: P. Crowley, Esq. (in the chair); with Rev. W. Wilks, Dr. Hogg, Messrs. John Lee, T. F. Rivers, W. Warren, T. J. Saltmarsh, J. Willard, H. Balderson, J. Hudson, G. Wythes, G. Sage, A. H. Pearson, G. Taber, A. Dean, Harrison Weir, and J. Wright.

There was a splendid display of fruit in the hall, such as not many years ago would have been thought impossible, and justice could only be done to the collections by awarding several valuable medals. These collections half filled the building.

The first products placed on the Committee table were from Messrs. Cooper, Taber, & Co., Witham, Essex. A new American Golden Melon, ovate and smaller than the Queen Anne's Pocket Melon, though not so good; the Vegetable Peach Melon, also small, but round and better. The season was really too late for these miniatures. Messrs. Cooper, Taber & Co. also sent fruits of the Japanese Pole Cucumber, so called because the plants are said to be supported by poles; it is of the ridge character, and said to be very free; also very fine samples of Worcester Pearmain Apples (vote of thanks).

Messrs. Dicksons & Co., Edinburgh, sent a dish of James Grieve

Apple, a medium-sized conical Apple, with soft flesh, but no award was made. Mr. J. Bowerman, Hackwood Park, Basingstoke, sent highly coloured fruits of a seedling Apple resembling Red Astrachan, but keeps till Christmas (passed). Mr. W. Longley, The Mall, Mersey, Faversham, sent a dish of a seedling Apple, which was determined to be Golden Noble. Mr. Robert Morrow, Leominster, exhibited a seedling Apple, named Hampton Court Pippin (passed). Mrs. Taylor, Twickenham Road, Isleworth, sent a seedling Apple from Golden Noble (passed). Mr. F. Smith, Loddington, sent a seedling Apple having some resemblance to the American Mother, but not nearly so good, and was passed. Mr. W. Bull, Ramsden, sent a seedling Apple, somewhat like the Nonesuch, but not so good, and no award was made. It is to be hoped that not half the seedling Apples that are raised will be propagated for distribution. The country is already too full of mediocrities.

Mr. G. Wythes sent a seedling Melon, fruit round, yellow, smooth, scarlet, flesh sweet, and considered one of the best of the season. It was named *Beauty of Syon*, and was awarded a first-class certificate. Mr. A. Bishop, Westley Hall Gardens, Bury St. Edmunds, sent a fine looking Melon, but a week or more too old, and decay had distinctly set in. Mr. W. C. Leach, Albury Park, sent splendid clusters of his *Lady Bird Tomato*. Fruits of full size, very heavy, rich in colour, and of good quality. The bountiful way in which the fruits are produced should render *Lady Bird* a Tomato for the million (first-class certificate). Dr. Hogg sent fruiting branches of Catawissa Raspberry, perhaps the best autumn bearer, also highly coloured fruits of Cox's Orange Pippin and Cellini, grown on the Hastings sand (vote of thanks).

Mr. Willard sent specimens of the silver or Seakale Beet, to draw attention to its usefulness for culinary purposes. As dressed they resembled heads of Celery (vote of thanks).

Mr. Barron brought from Chiswick bunches of an Hungarian Grape, Oreg Tirardovanny—a Chasselas Grape of extraordinary juiciness, a refreshing white Grape for invalids. Also the Muscat of Hungary, a miniature Muscat of delicious quality. Mr. Rivers brought a box of the Guigne de Winckler, a Cherry of German origin, and useful because of its late ripening character. He also sent fruits of the Purple Crab, round small crimson, ornamental, and fairly good eating (vote of thanks).

Messrs. Jarman & Co. sent some splendid Onions, comprising Prize-winner, Somerset Hero, International, and others (cultural commendation).

Mr. G. Wythes, Syon House Gardens, contributed a very extensive collection of Apples and Pears. Cellini, Lady Henniker, Alfriston, Norfolk Beefing, Dutch Codlin, and Pitmaston Duchess were very fine (silver Knightian medal). Mr. Mortimer, Rowledge, Farnham, contributed nine boxes of Apples, of which Warner's King and Golden Noble were good examples, and a collection of Grapes (silver Banksian medal). Mr. Blick, gardener to Martin Smith, Esq., exhibited twelve dishes of very fine Pears, Marie Louise, Princess, Magnate, Doyenné du Comice, Marie Louise d'Uccle, and Pitmaston Duchess were splendid, and Uvedale's St. Germain very large indeed (silver Banksian medal). Mr. Molyneux, gardener to W. H. Myers, Esq., M.P., Swanmore, sent dishes of Mère de Ménage and Cox's Orange Pippin Apples to show the colour, of which they were certainly very full. Mère de Ménage was heavily burnished. He also sent splendid fruit of Warner's King from trees planted in 1890 (cultural commendation). Mr. Becker, Jersey, sent dishes of four new varieties of Apples, named Jersey Lily, Yellow Admirable, Royal Jersey Pippin, and Monstrous Incomparable. For the latter, very large and symmetrical, an award of merit was recorded. Mr. Balderson exhibited a small collection of Grapes. Mr. Nicholson, gardener to J. W. Meller, Esq., Chingford, sent a good collection of Pears, and was awarded a bronze Banksian medal.

Messrs. Paul & Son, The Old Nurseries, Cheshunt, contributed a splendid collection of Apples in dishes and baskets. Golden Noble, Frogmore Prolific, Counsellor, Mère de Ménage, Beauty of Kent, Cheshunt Pippin, Lane's Prince Albert, Lord Derby, Transparent de Croncelles, Warner's King, Magnum Bonum, Cox's Pomona, Betty Geeson, Mabbot's Pearmain, and Loddington's Seedling were finely shown, some being very full of colour (silver Knightian medal).

Messrs. J. Peed & Sons, Streatham, contributed a large collection of Apples and Pears, Dutch Codlin, Lord Suffield, Annie Elizabeth, Warner's King, Small's Admirable, Cellini, Peasgood's Nonesuch, Rymer, Beauty of Kent, and Cox's Pomona being the most noticeable (silver Banksian medal).

Messrs. J. Veitch & Sons had a collection covering one side of a long line of tabling, and admirably displayed. Warner's King, Sandringham, Baumann's Reinette, Stirling Castle, Seaton House, Winter Hawthornden, Barker's Seedling, Lane's Prince Albert, Bismarck, Lord Suffield, Peasgood's Nonesuch, Stone's Apple, Lady Henniker, Tom Patt, Alfriston, Mrs. Barron, Manks's Codlin, and The Queen were very fine indeed (silver-gilt Knightian medal).

Messrs. J. Laing & Son had many dishes of well-coloured fruit, amongst which Cellini, Alfriston, Lord Derby, Peasgood's Nonesuch, Mère de Ménage, Bismarck, Golden Noble, and Washington were remarkable both for size and colour (silver Banksian medal).

FRUIT DRYING AT CHISWICK.

Several examples of fruits that had been dried at Chiswick by the Mayfarth apparatus were exhibited both as rings and chips, also cooked for use, with the same varieties of Apples cooked in a fresh state. The dried produce, whether boiled or baked, was quite equal to the fresh in quality and had lost nothing but water in drying, and this was absorbed

by immersing the Apple chips, &c., for two hours and the Plums and Damsons for six hours. The Apples tested as described were Cellini, New Hawthornden, Blenheim Orange, and Beauty of Hants. The following is Mr. Barron's report of the experiments:—

FRUIT DRYING.

During the operation a temperature from 175° to 200° is required for Apples, and the time occupied is about three hours.

10 lbs. of fresh fruit of Cellini	give 1 lb. 8½ ozs. when dried
10 " " " " " New Hawthornden ..	" 1 " 11 " " "
10 " " " " " Blenheim Orange	" 1 " 12 " " "
10 " " " " " Frogmore Prolific	" 1 " 9 " " "
10 " " " " " Lord Suffield	" 1 " 2 " " "
10 " " " " " Small's Admirable ..	" 1 " 3 " " "
10 " " " " " Beauty of Hants	" 2 " 4 " " "

The parings and cores have to be added to the weight of the dried fruit when calculating the exact reduction by evaporation. For Plums the temperature required is about 250°, and the time taken is from eight to ten hours.

The Committee marked their approval of the success of the experiments by recommending a silver-gilt medal to Messrs. Mayfarth and Company for the apparatus, with the expression of their great satisfaction at the results achieved.*

PRIZES FOR FRUIT.

The first prize for ten dishes of Apples, four dessert and six cooking, was awarded to Mr. A. W. Porteous, The Gardens, Devonhurst, Chiswick, who staged Bismarck, very fine; Gravenstein, well coloured; Worcester Pearmain, Ribston Pippin, very good; Cox's Orange Pippin, The Queen, good; Peasgood's Nonesuch, Warner's King, and Lord Derby, very fine. J. W. Melles, Esq., Sewarstone Lodge, Chingford (gardener, Mr. Nicholson), was accorded the second prize, staging fine examples.

For six dishes of dessert Pears, J. W. Melles, Esq., was awarded first prize, staging some fine fruits of Marie Benoist, Pitmaston Duchess, Beurré Diel, Doyenné du Comice, Louise Bonne of Jersey, and Rivers' Princess. In the same class the Duke of Northumberland, Sion House, Brentford (gardener, Mr. Wythes), was accorded the second prize for good examples of Marie Louise, Duchesse d'Angoulême, Beurré Diel, Pitmaston Duchess, and two others.

Mr. J. Hudson, gardener to Messrs. de Rothschild, Gunnersbury House, gained the first prize for six bunches of Grapes, staging two bunches each of Lady Downe's Seedling, Muscat of Alexandria, Black Alicante, which were very fine indeed. The second prize in the same class was accorded to Mr. Thos. Osman, The Gardens, Ottershaw Park, Chertsey, who staged good bunches of Black Hamburgh, Black Alicante, Mrs. Pearson, and Lady Downe's. Miss C. Debenham, St. Peter's, St. Alban's, also staged six average bunches.

The first prize for six bunches of the best flavour was taken by Mr. Thos. Osman with Mrs. Pearson, Muscat of Alexandria, and Mrs. Pince's Muscat.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair), Rev. H. H. D'Ombraim, Messrs. B. Wynne, R. Dean, H. Herbst, Chas. T. Druery, C. F. Bause, Robt. Owen, George Phippen, R. B. Lowe, T. W. Girdlestone, W. C. Leach, W. Furze, Geo. Gordon, Chas. Jefferies, Henry Cannell, James Walker, T. Baines, John Fraser, Chas. Noble, Bennett Poë, George Paul, Harry Turner, and Owen Thomas.

Mr. W. C. Leach, Albury Park Gardens, Guildford, contributed a collection of autumn foliage, rich in colour; Acer palmatum purpureum, Prunus pissardi, Rhus cotinus, Cerasus padus, Azalea pontica, Andromeda arborea, Pavia macrostachya, and others being included (silver medal).

Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton, staged a very fine group of foliage plants, including well grown specimens of Pteris tremula elegans, Nephrolepis davallioides furcans, Davallia elegans, D. Mooreana, Croton Bergmani, C. Thompsoni, Adiantum farleyense, and various Palms (silver-gilt Flora medal). Messrs. E. D. Shuttleworth and Co., Peckham Rye, sent a group of Cycads, including some magnificently grown specimens (silver-gilt Flora medal).

Mr. Wells, Earlswood Nurseries, showed a small group of Chrysanthemums, including good flowers of Bouquet des Dames, James Salter, La Chirine, Elaine, Volunteer, Fabian de Mediana, Refulgens, and a dozen lovely blooms of William Wells. Mr. T. Bones, Tower House Gardens, Chiswick, sent three very finely flowered plants of Nerine crispa, which were most charming. Mr. Owen Thomas, The Royal Gardens, Windsor, staged a group of Margaret Carnations, which were in flower, they having been grown from seed sown on February 18th, 1892. The blooms, which are sweet-scented, partake more of the Pink than the Carnation, as also does the foliage. They will doubtless become very popular, as they are so useful for cutting purposes, and having such a delightful scent will still further enhance their value.

A group of very fine seedling Begonias was staged by Messrs. H. Cannell & Son, Swanley, Kent. The Zonal Pelargoniums exhibited by the same firm, and including Raspail Improved, Madame Bondeville, were magnificent; the latter of a delicate rose pink, is very fine (award of merit). Raspail Improved has much larger flowers and trusses than the original, and is a most decided improvement (silver Banksian medal). Mr. Arthur Knowles, nurseryman, Horsell, near Woking, exhibited a box of the charming Daphne cneorum, the plants of which were excellent specimens. Dr. Frankland, F.R.S., The Yews, Reigate (gardener, Mr. Ritchings), staged a group of Chrysanthemums (bronze medal). Mr. Anthony Waterer, Knapp Hill,

* See our Home Farm article, page 365.

Working, was accorded a vote of thanks for a bunch of *Berberis Thunbergi*.

A hybrid *Streptocarpus*, crossed between *Galpini* and *Rexi*, was sent from the Royal Gardens, Kew. It is a very beautiful flower, the colour being clear mauve blue with a velvety violet throat, in which respect it differs from *Galpini*, which has a pure white throat and was staged for comparison.

ORCHID COMMITTEE.—Present: Dr. Masters (in the chair), Messrs. de B. Crawshay, E. Handley, J. Douglas, G. Hill, J. Jaques, Jas. O'Brien, H. M. Pollett and H. Williams.

Messrs. B. S. Williams & Son, Upper Holloway, had a diversified group of Orchids, flanked by a few plants of the beautiful *Griffinia hyacinthina*. A fine specimen of *Cypripedium insigne* was conspicuous; *C. oenanthum superbum*, *C. selligerum rubrum*, *C. Dominicanum*, *C. Hartwegi*, *C. Morganiae*, *C. Spicerianum*, *Dendrobium Goldiei*, *Odontoglossum mirandum*, *O. grande*, *Pleione lagenaria*, *P. Wallichiana*, *Bollea Patini*, and *Oncidium Papilio Eckharti* being also represented (silver medal). Messrs. F. Sander & Co., St. Albans, had an interesting group, which comprised a very pale form of *Dendrobium Phalaenopsis Schroderiana*, *Cœlogyne fuscescens*, *Dendrochilum Lobbianum* with sixteen racemes, *Cattleya Brymeriana* (a brightly coloured form of the eldorado section, the lip being very rich, supposed to be a natural hybrid between *C. eldorado* and *C. superba*), *Masdevallia Gorgona*, *M. Roezli*, *M. chimæra*, *Cattleya chrysotoxa* (a richly marked flower with aurea characters, being deeply veined with gold, the sepals and petals pale yellow), *Brassia maculata*, and a charming pure white *Masdevallia* named *Measuresiana*, a cross between *M. amabilis* and *M. tovarensis*. Phillip Crowley, Esq., Waddon House, sent a good plant of *Vanda tricolor*, *V. Kemballiana*, and *Odontoglossum grande*, freely flowered. He also contributed *Cymbidium giganteum*, with a spike containing nine of the dark bronzy flowers (bronze Banksian medal).

CERTIFICATES AND AWARDS.

Chrysanthemum Mrs. C. Myers (Mr. R. Owen).—A white Japanese with broad, evenly disposed, and gracefully arched florets (award of merit).

Chrysanthemum Baron Hirsch (Mr. R. Owen).—A very promising incurved, having broad, substantial petals of a reddish bronze hue. The flower was not quite up, and will most likely turn out well (award of merit).

Chrysanthemum William Seward (Mr. Seward, gardener to J. Shrimpton, Esq.).—A handsome Japanese with broad florets of a deep brownish crimson, central ones reflexed, and greyish bronze (award of merit).

Chrysanthemum Beauty of Exmouth (Mr. W. J. Godfrey).—This is a fine white Japanese, figured and described elsewhere in the present issue (award of merit).

Zonal Pelargonium Madame Bondeville (H. Cannell & Sons).—Pale flesh pink, edged Picotee-like, deep rosy red, very fine truss.

Zonal Pelargonium Improved Raspail (H. Cannell & Sons).—A decided improvement on the well-known F. V. Raspail, the blooms and trusses being much larger (award of merit).

MR. W. CARRUTHERS ON "CYCADS."

The subject of the lecture given at the Drill Hall on Tuesday afternoon was "Cycads," and was most ably dealt with by Mr. W. Carruthers in the short time at his disposal. Dr. Masters occupied the chair.

In opening the lecture Mr. Carruthers remarked that a few years ago it would have been very difficult for anyone to have said what Cycads were; but of late years a very great interest had been taken in them by botanists, thus making it now an easy matter to identify them, and tell from whence they came. They had been allied with the Palm in each case erroneously, though it has since been demonstrated, and is now generally accepted, that they are related to our Conifers. He gave a few remarks on the hybridisation, remarking that the flowers of the Cycads have no stamens. There are, the lecturer went on to say, about 400 known species, which are found on almost all of the great continents. Their natural habitat appears to be the tropics, though they are found extending in a northerly direction, and also a southerly one, from the tropics. A large group is found in Florida, others in Mexico, South Africa, Tropical Australia, Asia, and on the borders of the Indian Ocean. The species with imbricated cones are found mainly in Mexico, and the various other kinds from the different quarters of the globe already named. One leaf shown by the lecturer had no resemblance to any of the others, but was more like a Fern, amongst which it was originally classed, until the botanists proved it to rightly belong to the Cycads.

The plants are all very easy to cultivate, requiring stove heat to bring them to perfection. Mr. Carruthers said he failed to understand how it was that plants of such easy culture, so beautiful and so useful for decorative purposes, should be so seldom grown. He would like to warn those who might be intending to grow Cycads not to throw them away if they did not at once break into growth. The plants remained dormant for a very long period, and would then suddenly start into growth.

Mr. Watson, Kew Gardens, in the brief discussion which followed, described the method of culture required, and said that, although *C. revoluta* would live in a temperate house, it would not grow, needing as it did a stove temperature to bring it to perfection, and show to advantage its fine green foliage. Professor Henslow remarked on the principal botanical points connected with Cycads. A vote of thanks to Mr. Carruthers and the authorities at Kew Gardens concluded the proceedings.

CLETHRA ALNIFOLIA.

WHEN this dwarf, hardy summer-flowering shrub is blooming freely, it is extremely attractive. Spikes of flowers, many of them much larger than those shown in the engraving (fig. 49), are produced from every axil; indeed, so freely have we seen the flowers produced that the low bushes bristled with them. They are creamy white in colour, delicately fragrant, and, associated with the fresh-looking light green foliage, are admirably adapted for vase decoration.

Being a native of the swamps of Virginia it requires moist, deep, and tolerably rich soil. It is worthy of a suitable position in the front of shrubberies, or even in large borders of herbaceous plants that are grown for affording flowers for cutting. It is deciduous, quite hardy, and although introduced in 1731 is not so generally



FIG. 49.—CLETHRA ALNIFOLIA.

grown as it might be. It is of close and rather compact habit, and grows about 3 feet high. The present is a good time to plant this useful shrub.

EFFECTIVE FLOWER BEDS.

I NOTICE you have been giving a list of flower beds which have been thought worthy of notice during the past season.

The following bed has been greatly admired, and is still good:—*Hyacinthus* (*Galtonia*) *candicans* and *Agatheæ cœlestis*. The *Hyacinthus* were planted in April about 10 inches from bulb to bulb, and the *Agatheas* were planted in June.

A second and very pretty arrangement was composed of *Fuchsia* *Charming* and yellow *Violas*. The *Fuchsias* were rooted in September, 1891, placed in 3-inch pots in March, and shifted in April into 6-inch pots. They were 18 inches in height when planted in June; the *Violas* were rooted under handlights the same month and planted as a ground-work at the same time.

A third and a very much admired arrangement consisted of *Gladioli breuchleyensis* and *Phlox Drummondii* planted underneath. When these beds were at their best at the end of August they presented a very gay picture and one well worth repeating. The *Phloxes* are still as gay as ever.

Another effective association has been produced by planting a dark

crimson Calceolaria in the centre of a long bed, a broad band of Henry Jacoby Pelargonium next to this, a broad band of Flower of Spring next, a broad band of Lobelia (blue) next, and a broad band of Ajuga reptans purpurea to finish with. This is a good hardy plant for edging, and gives very little trouble.

A fifth (circular) bed was planted as follows:—Centre, dark-leaved Cannas interspersed with pink Ivy-leaved Pelargoniums, a broad band of Rev. F. Atkins Pelargonium, and a band of mixed Phlox Drummondii pegged down. This formed a bold and effective bed.

The beautiful tuberous Begonias have played an important part in the flower garden; beds of these, with Mesembryanthemum cordifolium variegatum were very gay. Where the Begonias can be planted in separate colours they are far superior to Pelargoniums; they flower more freely, and no cuttings have to be taken to mar the effect. Where there are large beds and borders to be filled the old Rudbeckia Newmanni and Salvia patens form very bold and telling masses.—T. A., Cirencester.

PINK IVY-LEAVED PELARGONIUMS AND MARGUERITES FOR BEDDING.

"I AM asked to furnish two large beds with pink Ivy-leaved Pelargoniums and Marguerites. Will Mr. Dunkin, who wrote on page 280 in the Journal, please let me know the varieties he has proved best for the purpose, and the distance apart for the Marguerites to have the most effect?"

Thus writes a correspondent, and I have pleasure in detailing a little more of my experience. Madame Crousse is the best Ivy-leaved Pelargonium I have yet tried for bedding purposes; the colour is generally described as a delicate rose, but outdoors it may correctly be termed a true pink, as the colour gradually changes from rose to pink after the flowers have been opened a few days, and there is no other bedding plant I know of which supplies such a beautiful shade as does this. Wherever it is seen in good condition by those who have not grown it, a determination to do so in the future is invariably the result. This variety is a capital grower, producing abundance of long trailing shoots, especially adapted for pegging down. Old plants, which have become too tall for pot culture, may be turned to good account by planting them in the flower beds and intermixing a few young ones with them. Both old and young plants flower very freely in our soil, which is light and well drained.

Rather close planting should be practised so as to produce a good effect quickly. When our plants are pegged down the points of the young shoots are regularly disposed at about 2 inches apart all over the bed, a mass of flower is then speedily produced. The only attention required for the rest of the season is to stop a few of the strongest shoots, cutting out an occasional one where the growth is becoming crowded, and keeping dead flowers removed.

Souvenir de Charles Turner is a good bedding variety, of a rosy magenta colour, the individual pips of each flower truss being large and full. The shoots produced are thicker than those of Madame Crousse, but they do not grow so freely; and although the colour is richer than that of the former variety, it is not generally so much admired.

The Marguerites when put out should be strong plants, root-bound in large 60-size pots, the stems having been stopped twice. This will cause them to flower freely instead of starting rapidly into growth after being planted out—a most important consideration. The beds I planted last year were large oblong ones, 4 feet in width. Only one row of Marguerites was planted, these being dotted along the centre at intervals of 3 feet, a distance which answered admirably for plants of the size above indicated. If, however, I were to plant a round bed, or one which required two or more rows of Marguerites, I should place them 4 feet apart, as it is important to allow plenty of pink to show between them to produce the best effect. If at any time the Marguerites show a tendency to grow too strongly a few of the Pelargonium shoots should be turned back, and the roots of the Marguerites cut round with a spade at about 6 inches from the stem. In this way they can be kept within due limits and constantly flowering throughout the season.

Mrs. Perry Pelargonium, Cineraria maritima (pegged down), or Centaurea ragosa each make a good edging for a bed so planted. Last year, however, I edged one bed with a broad band of Golden Feather, and I was told by an artist of repute that the dark green of the Ivy-leaved Pelargoniums, their pretty pink flowers, and the golden edging, when considered as a combination of beautiful shades of colour, was simply perfection.—H. DUNKIN, Castle Gardens, Warwick.



FRUIT FORCING.

Vines.—*Earliest Vines in Pots.*—In a previous calendar we enlarged on the desirableness of taking the early supply of sweet, thin-skinned Grapes from Vines in pots, in preference to starting permanently planted Vines at an early period. Well managed Vines in pots produce

Grapes that are quite equal in quality if not in size to those borne by Vines planted in borders, and often better, from the conditions of culture being more favourable. This is the case where the Vines are given the benefit of bottom heat, but to insure success the canes must be sufficiently strong, thoroughly ripened, and duly rested. As a start must be made the 1st of November to have ripe Grapes in March or early in April, the materials for affording bottom heat—that is, tree leaves and stable litter—should be in due course of preparation. The heat about the pots must not exceed 65° at the start, bringing up the fermenting materials to the level of the pots by degrees, so as to augment the temperature to 70° to 75° about them when the Vines are in leaf. Any Vines in pots required for starting later should be placed under cover, an open shed with a north aspect being suitable, but the pots must be protected with dry hay or straw, and mice and rats kept down, or the animals may render the Vines useless by girdling them at the collar.

Vines for Starting in December.—The pruning will have been performed; if not it must not be further delayed, as early and complete rest for a few weeks contributes to an even break, the Vines responding to the heat and genial atmosphere better than when little rest is given. Pruning to two buds is usually followed by a good show of useful bunches; but if such have not done so in previous years, or larger bunches are desired, the shoots may be left a little longer, or pruned to the most plump eye nearest the base; but what is gained in size of bunch is generally lost in compactness of bunch, unevenness of berries, and bad finish. Bunches of 1 to 2 lbs. weight are quite large enough for early Grapes. Remove any loose bark, but avoid the close peeling and scraping that injures the rods, and wash them with tepid soapy water—3 ozs. of softsoap to a gallon of water. If there has been any attack of insects follow with an insecticide, and repeat before the Vines are started. Thoroughly cleanse the woodwork of the house, and limewash the walls. Remove the surface soil down to the roots, if not to the whole extent of the border, for a distance of 3 or 4 feet from the stems, and supply fresh loam so as to encourage fresh roots as well as an extension of those from the collar, adding about a quart of steamed bonemeal and a gallon of wood ashes to every three bushels of loam. Keep the house cool, airy, and dry until the time arrives for starting.

Houses of Ripe Grapes.—Thin-skinned Grapes are more susceptible to damp, cold, and climatic changes generally than the thick-skinned. This applies equally to Hamburgs as to Muscat of Alexandria, but Hamburgs require 5° less heat, 50° being necessary for the good keeping of Muscat of Alexandria; and there must not be any deficiency of moisture at the roots, otherwise the Grapes will shrivel. Remove all dead and decayed leaves from the Vines where ripe Grapes are hanging, and look over the bunches for any shanked or decayed berries, and burn them. A temperature of 50° is the most suitable for Muscat of Alexandria, but it may fall to 40° where Black Hamburg is hanging. No opportunity should be lost in giving air when the days are fine, turning on the heat so as to cause a gentle warmth in the pipes, not so much to dry the atmosphere as to insure a circulation of air, which is the best safeguard against damp. Turn off the heat at midday or soon after, so as to allow the pipes to cool, but not so as to lower the temperature below the night minimum. When the heat falls too low and the temperature is raised moisture condenses on the berries, and being stagnant the skin of the berries is more or less decomposed, and the micro-organisms find easily access to the pulp, or secure the needful food elements in the weakened epidermal tissues, and set up speedy decay. There is no harm in a low night temperature; the fault lies in not giving air soon enough, so that the heat from the hot-water pipes or the sun expands the atmosphere, and the moisture is deposited on the cooler surfaces of the berries as well as on the glass. In dull weather, especially during fog, it will be necessary to keep a genial warmth in the pipes, but the house closed, in which case the moisture will be condensed on the glass instead of the Grapes.

Vines not Ripening the Wood.—Any that are not yet hard and brown in the wood should have a temperature of 60° to 65° by artificial means, a little air constantly, and the heat from sun heat may run up to 85° or 90°, only let there be enough air to insure a circulation. The laterals should be reduced by degrees, bringing them down to their principal buds, and when there is no danger of starting those, the shoots may be shortened to about two leaves above the pruning buds. This will cause the latter to plump, and by keeping the house rather warm by day with ventilation, and turning off the heat at night with free ventilation, the Vines will go to rest.

Late Grapes.—The thick-skinned Grapes require time to mature after they are ripe, though Alicante improves nothing whatever in keeping, and is at its best so soon as well ripened, and the same may be said of Gros Maroc. Mrs. Pince is the best thick-skinned Grape, and it is one of the most difficult to finish, and it is at its best shortly after it is ripe. Its great defect, however, is not colouring well up to the shank, and it makes no difference whether the bunches are large or small. Started early, say in March, the berries set better and the fruit ripens quite up to the shank, and when covered with its fine bloom is very taking in appearance. Alicante retains its colour well, and as a prelude to Gros Colman is a very desirable Grape, as it is good in quality, the vinous flavour being very refreshing, and the earthiness of Gros Colman entirely absent, whilst its appearance is unrivalled by any oval Grape unless it be Alnwick Seedling. The magnificence of Gros Colman is not its chief merit, and that goes a long way even with table Grapes, and is all-important for market. Its beautiful appearance whets the appetite, and the flavour is entirely overlooked, as that beside West's St. Peter's, less

presumptuous in bunch and berry, is incomparably bad, yet when started early so as to allow it time to mature, the berries are not only superb, but the quality is vastly improved. But its principal value consists in the easiness of its growth; the bunches are always compact, the berries set well; they swell to a good size, and when the Vines are not overcropped they colour first-rate. It is far the best in quality when grown on the old red sandstone formation, though it does well on the alluvial silts, as do all the coarse vinous Grapes. For rich vinous quality no thick-skinned Grape can vie with West's St. Peter's, but it is no use where appearance at table is the chief merit in a Grape. Lady Downe's is not only the best keeping Grape, we have had it excellent in June, but is unapproached by any late Grape for uniform excellence in quality, though only about half as taking in appearance as Gros Colman, and not giving nearly as much weight of fruit per Vine or space, it retains its richness to the last, simply because it contains more sugar and mostly has a decided "smack" of Muscat. In white Grapes we have the White Gros Colman, which is less earthy in flavour than the type, and promises to take a high place for appearance sake. Trebbiano will not, however, go out of cultivation, for when well done it is an enormous counterpart of Muscat of Alexandria in looks, and the flesh is firm, crisp, and sweet. This Grape also likes red soils. There must not be any deficiency of moisture in the border, and the atmosphere must not become stagnant, but have enough warmth, with air, to keep it in motion, the temperature not being allowed to fall much below 50° until the leaves fall.

Renovating Vine Borders.—Where the soil is of a suitable nature and the cultural treatment proper Vines flourish for an indefinite period, but they are mostly planted in artificial borders and the roots confined to limited areas. These conditions result in the soil becoming defective in aliment if not unfavourable as a rooting medium. Thorough renovation in ordinary cases is desirable, but a partial renewal of the soil, or such portion of it as will secure active feeders, is generally attended with satisfactory results. Where, therefore, Vines are not in a satisfactory condition no time should be lost in removing the soil down to the roots and picking it from amongst them, so as to displace as much of it as possible with fresh compost, and it is best effected whilst the leaves are upon the Vines, but not before they have performed functions to the extent of perfecting the buds and wood. In case the border is found very unsatisfactory and the roots few and deep, it will be necessary to remove all the soil and renew the whole border, commencing with the drainage, which should be clear and 9 to 12 inches deep, with a 3-inch layer of fine material on the top, old mortar rubbish freed of pieces of wood answering perfectly. There must be a drain under the drainage to carry off superfluous water. The soil should consist of the top 2 or 3 inches of a pasture, where the staple is a good yellow or hazel loam. A barrowload of charcoal may be added to every cartload of loam and a similar proportion of calcined oystershells, though they are preferably crushed, also a bushel of wood ashes and a peck of Thomas' phosphate powder, all well incorporated. Two feet depth of compost is ample, and the roots should be laid in the top foot and in layers according to their inclination, encouraging those from near and at the collar by laying them just beneath the surface, making the whole compact and having the soil moderately dry. If the roots are inside and outside one part may be done one year and the other the next, without any danger of loss of crop. Take care to preserve all the roots practicable, merely cutting off broken and paring bruised ends smooth, and to keep them as much as possible from the drying influence of the weather whilst the operation is in progress. Afford a good watering to settle the soil about the roots; if necessary, sprinkle 4 ozs. of steamed bonemeal on every square yard, and mulch with about an inch of short manure, and cover outside borders with a few inches thickness of leaves with a little litter over them.

Melons.—The supply of fruit from frames and pits heated by fermenting materials is about over, yet fairly well-flavoured Melons may be had up to November, and it is a notable fact that the scarlet flesh have more quality and taste than the green flesh, about two-thirds of which are white fleshed. Little Heath and Scarlet Premier are examples of rich flesh, the latter being very good for late work, keeping a considerable time, and so continuing the supply to a late period. Any fruit yet remaining should be cut with a good portion of stem when approaching ripeness, and placed on a shelf in a house with a gentle warmth, where they will ripen and be welcome additions to the dessert, quite as much from their appearance and aroma as for use. The supply of fruit from houses will be continued for some time longer, often till Christmas, the later fruit only being now swelling. Damping in the morning and again early in the afternoon will be sufficient for these plants, and water need only be supplied to the roots once a week, unless they are very much restricted, when it will be required oftener. Let the foliage have as much benefit as possible of the autumn sun by keeping superfluous laterals suppressed, not allowing them to interfere with the principal leaves. Keep plants with fruit approaching ripeness rather dry at the roots, and withhold water from the atmosphere, and maintain a brisk heat of 65° at night, 70° to 75° by day, rising to 85° or 90° from sun heat, affording a little air at the top of the house constantly, and increasing it whenever the weather is favourable.

Cucumbers.—Maintain a night temperature of 65° to 70° in mild weather, 60° to 65° when the nights are cold, 70° to 75° by day artificially, advancing to 80°, 85°, or 90° with sun heat. Admit a little air at the top of the house whenever the weather is favourable, but avoid cold currents; indeed, it must be done without lowering the temperature or drying the air too much, and lose no opportunity of closing early in the

afternoon on days when a little ventilation has been given in the early part of the day. On dull days little moisture will be required, but on very fine days the plants may be lightly bedewed overhead, and the floors, walls, and paths damped in the morning and afternoon, also when much fire heat is used in the evening. Earth the roots as they protrude from the hillocks or ridges; supply water as required, not less in temperature than that of the bed, being careful not to overwater, nor allow the plants to lack needful supplies of that element and liquid manure, or surface dressings washed in.

The autumn fruiterers being in full bearing must not be overcropped, but the plants will bear enormously. Cut the fruit directly it becomes fit for use, also remove tendrils, male blossoms, and an excess of fruit blossom or deformed fruits. Supply a little fresh loam to the surface of the beds as often as the roots appear, and let it be warmed through before using. Examine the plants at least once a week for the removal of bad leaves, and for stopping and cutting away the superfluous growths. Horse droppings sprinkled on the beds occasionally act as a gentle excitant to the roots, supply nourishment to the soil, and ammonia to the atmosphere. Spare no effort to keep the foliage clean and healthy, and do not allow accumulations of dirt on the glass. Allow the winter fruiterers to extend well up the glass before stopping them, train the shoots right and left at about 1 foot distance apart, crowding being fatal to well developed foliage, and the sturdier the plants are grown the better will they be able to withstand the trying ordeal of continued dull or prolonged severe weather.

PLANT HOUSES.

Cyclamen.—Seedlings may be carefully pricked out of the seed pan into other pans or shallow boxes until they are large enough for small pots. The young plants should be arranged close to the glass in a temperature of 55°. Air ought to be given to prevent the young plants becoming drawn. If the young plants are large enough for small pots keep them plunged after potting to prevent dryness. A temperature 5° lower will do for plants in this stage. Larger plants in 3-inch pots may be placed into 5-inch; these should be grown under cool conditions, and will if properly treated be useful for early flowering another year. These plants will produce a few flowers in spring, but they should be removed as they show bloom and the plants encouraged to grow. Seed may be sown at once and placed in a temperature of 60°; in fact, the seedlings should be kept in heat during the winter. Excellent plants may be produced from seed sown at the present time. These plants can readily be brought into bloom as they are required by placing them after they once show flowers where a little warmth can be given them.

The Forcing House.—Where quantities of flowers are needed, a house in which a hotbed can be made should be set apart for forcing them. Leaves are now plentiful, and if those of the Oak or Beech are gathered and mixed with litter from the stables, the bed will retain heat for a long time. Where leaves form the principal part of a hotbed, it may be made up at once in the house, but when litter largely predominates, the material should be thrown together outside and turned two or three times before the bed is made. When the bed is made up in the house a liberal quantity of air should be admitted to aid fermentation. Azaleas and any other plants that it is necessary to force into bloom may be stood on the surface as soon as the material begins to heat. Roman Hyacinths come forward rapidly on a bed of this description. It is also an excellent place for Bouvardias until the whole space is needed for other things.

Solanums.—Where a stock of these are needed for another year introduce a few plants into warmth and force them into growth to yield cuttings, which, when large enough, should be rooted, and the young plants grown in heat. Seed may also be sown, and the seedlings grown in the same way. When raised at once the plants have a long season before them in which to grow and set their berries.

Lilium lancifolium.—These have done flowering, and the plants should be protected from frost until they ripen off naturally. A deep frame or a position at the back of a cool fruit house will suit them very well. The bulbs must not be kept too dry after the stems have died down.

Fuchsias.—A late batch of these are very useful for conservatory decoration, and prove conspicuous in association with early flowering Chrysanthemums. The sprays of bloom are also serviceable in a cut state; they are a little heavy, but in large vases they hang very gracefully over flowers of a stiff nature. Those that have done flowering may be stood outside for a time until the approach of frost, the wood will become firm and ripe, and the plants are ready for storing away for the winter.

Tea Roses.—Plants that have been well cared for outside during the summer and lately protected from frost in frames or a cool house may be introduced into a structure where the temperature will average about 50°. A little air should be given, and in bright weather the plants syringed twice daily. Under these conditions they will soon start into growth, and in due course produce a useful supply of flowers. The plants introduced a month ago have commenced to unfold their delicate buds, and are useful now that outside flowers are practically over. Roses that are to be introduced into the forcing house early in December may remain outside until they have been subjected to a few degrees of frost.

Lily of the Valley.—The foliage will have died down from plants that were grown inside by the aid of warmth in spring, and then plunged in a sunny position outdoors. These will soon come into bloom if they

are introduced into brisk bottom heat. Very early supplies can only be obtained by this means.

Tuberoses.—Tubers potted late and grown outside during the summer and lately sheltered in a cool house will be useful if brought into flower. These, as a rule, are never so good as those that are brought into flower earlier in the year. The flowers are, however, highly appreciated. They will come into flower quickly in a temperature of 55°. After flowering the plants may be thrown away.

THE BEE-KEEPER.

APIARIAN NOTES.

PREPARING FOR WINTER.

It should be borne in mind that the less honey bees require to consume during the winter the more healthy will the colony be. The best way to secure this is to prepare now and never more disturb the bees until the spring is advanced. One manipulation at the wrong time is sufficient to insure the destruction of the best hive. On no pretext whatever should cold air be admitted to the hive from above, and the more cosy they are kept the better.

Meadow hay forms the best protection to hives both on the sides and the top; a piece of felt should cover the hay on sides and a watertight roof of some sort raised a little from the hay with ample ventilation at the eaves. This covering is perhaps not quite so neat-looking as wood, and loose hay never looks well in an otherwise well kept garden.

Outside cases are sometimes heavy to lift, and always occupy the same space whether tenanted or not. A good substitute, and much better in most respects, are four panels or shutters the full height of hive and two tiers or supers. Perhaps the cheapest and most simple plan of fastening these together is by brass screws, two in each side. The wood should not be more than half an inch for the uprights and three-eighths for the bars. That size is necessary to cover handles and fastenings.

This makes a neat and cheap cover which anyone can make, and is a thorough protection against wind and water. If desirable, the space between the bars may be filled with hay, or a piece of felt may be tacked on. Of course an entrance corresponding with entrance to hive must be left, and the roof may be from a sheet of iron or zinc to an expensive and as ornamental a roof as the bee-keeper may desire. This form of protection is the only one of double casing that prevents decay in hives.

WINTERING BEES.

On the 9th October the barometer rose in twelve hours from 28.20 to 29.40. Some flowers that had been in bud for weeks opened on that day, although the temperature was only 45°. We have now had a week of improved weather, although not a day has passed without rain. It has, however, been fair enough for farmers to proceed with harvest operations, which is late. On the 11th we had 7° of frost, which cut down all tender flowers.

As the weather previous to that had been so wet and stormy, which prevented hive manipulation, I took the advantage of the last-mentioned date to remove supers and feed those in want. As none of the bees hatched from the middle of August and onwards had evidently never flown. All the hives were very strong in bees, none apparently having been lost at the Heather. They, with the feeding and disturbance, had an airing, and, in all my experience, I never witnessed bees in the same state during the autumn, and never worse during any winter. Their evacuations covered everything thickly in the apiary. Thousands of bees were falling to the ground, and for a time were unable to fly. The sun shining revived them, and the greater number found their way back to their hives, although many were lost, but there are still plenty and to spare, never having had so strong hives at this season.

There has been more frost, storms, and rough weather since May than was in any of the winters between 1847 and 1849. The present year has afforded some useful lessons. Hives at the Heather, equal weight as some at home, consumed all their stores, while the latter were only several pounds down. The cause of this was the lower temperature the bees had to contend with at the Heather, consequently more food was consumed to keep up the necessary heat for their healthy maintenance. But it was evident that two months' confinement of young bees after being hatched was inimical to their welfare. Doubtless had the temperature been higher the long confinement would not have injured them to the same extent.

The experience is not new, but the proof is valuable, supporting

my previous experience and teachings how to prepare bees for the winter by giving them an ample sized hive, single walled, well covered with non-conducting material, ventilating floor, and small entrance, 1 inch being wide enough for the strongest hive. With such hives so prepared there will never be any dead bees found on the floor during the winter. Reverse matters. Crowd the bees on little space, have a solid floor, hive double walled, and a wide doorway, and the latter will be often full of dead bees, not unfrequently 1 inch deep of them on the whole part of the floor.—A LANARKSHIRE BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

Dammann & Co., Naples, Italy.—*Vegetable and Flower Seeds, Plants, &c.*

P. J. Looymans & Zouen, Oudenbosch, Holland.—*Shrubs, Ornamental Trees, and Roses.*

T. Rivers & Son, Sawbridgeworth.—*Fruit Trees and Roses.*

Frank Cant, Braiswick Nursery, Colchester.—*Roses.*



*All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Stove Climbers (J. M.).—Twelve good stove climbers are the following. If half the number only are required select the first six—*Stephanotis floribunda*, *Allamanda Hendersonii*, *Dipladenia Brearleyana*, *Clerodendron Balfourianum*, *Bougainvillea glabra*, *Gloriosa superba*, *Dipladenia amabilis*, *D. boliviensis* to be grown at the coolest end of the house, *Cissus discolor*, *Ipomoea Leari*, *Poivreia coccinea*, or more commonly called *Combretum purpureum*, and *Aristolochia elegans*.

Cypripedium insigne (E. M.).—We should consider a plant well flowered in a 10-inch pot if it had thirty good blooms. We have, however, seen plants in large pans with over one hundred blooms. A plant is well bloomed when it produces one bloom of large size for each fully developed growth; for instance, if a plant in the pot you name had only twenty fully developed growths and bore the same number of flowers, we should term it a well-flowered plant.

Maggot Infesting Palm and Grevillea Roots (H. E. M.).—This is the grub or larva in an early stage of one of the destructive weevils of the genus *Otiorhynchus*, probably *O. tenebriosus*. Like its brethren, it lurks at the roots of a number of plants growing on borders or in pots, feeding from autumn till spring. Where it occurs the roots need a thorough examination. Dressing them with lime or soot has been found successful. The soil may also be watered with hellebore tea, which is fatal to them, also lemon oil, and diluted carbolic acid has been tried; but the latter needs caution. They defy many of the insect killers. During the summer the beetles appear on the branches of fruit trees at dusk, and may be shaken off into trays or cloths. Roasting the soil, then moistening it prior to use, is an excellent preventive, catching the weevils a better. The "webs" have nothing to do with the grubs, but are the mycelia of a fungus.

Gathering Apples for Keeping (F. S.).—Apples for keeping should never be gathered before they part readily from the trees, for when they are immature there is great danger of their shrivelling, even when kept in a cool and dark room somewhat moist. Except in warm and early seasons the following are not fit to gather at the end of September, but require more time. Dessert: King of the Pippins, Cox's Orange Pippin, Blenheim Orange, Gascoigne's Scarlet, Wyken Pippin, and Baumann's Reinette. Kitchen: Small's Admirable, Queen Caroline, Lord Derby, Golden Noble, Bismarck, Lane's Prince Albert, and Bramley's Seedling. The following are generally fit to gather at the period you require them, and keep some little time. Dessert: Duchess of Oldenburg, Kerry Pippin, Worcester Pearmain, and Lady Sudeley. Kitchen: Lord Grosvenor, New Hawthornden, Councillor (Yorkshire Beauty), Ecklinville Seedling, The Queen, Warner's King, and Seaton House.

Lælias Decaying (*B. B.*).—The *Lælia purpurata* pseudo-bulb you sent is rotten. Insufficient drainage or too much moisture when resting will produce this result; a very low temperature will also cause them to go off. *Lælias* and *Cattleyas* require more sun and air than is generally accorded them; keep the plants much drier and let them have more light at all times.

Top-dressing Peach and Nectarine Trees in Pots (*Oakbank*).—The proper way is to remove the soil to such depth as will admit of an addition of fresh, and still leave room for holding water and top-dressings of rich compost below the rim; also to remove the soil at the sides, at least two-thirds the depth of the pot, so as to allow of some fresh soil being placed all round the ball and rammed well. We have not only seen the operation carried out at Sawbridgeworth, but have practised it ourselves for many years, and found it to answer well. You cannot do better than strictly follow Mr. Rivers' teaching, as given in his book, "The Orchard House," page 82, sixteenth edition, to which you refer.

Chrysanthemums Damping (*C. G. B.*).—It is very difficult to point out the cause of your blooms damping without seeing them and knowing exactly how they have been treated in every respect. If the plants are active at their roots, we are inclined to think they may have been left outside too long, and have been slightly checked. Damping is also due to a superabundance of moisture in the atmosphere and defective ventilation. During changeable weather the utmost care is necessary to maintain a uniform condition of moisture in the atmosphere. When the sun bursts out brightly, and ample ventilation is not quickly provided, the moisture of the atmosphere is condensed on the florets, and quickly ends in their destruction. The varieties you name are very liable to damp, especially in a house where a little fire heat may be used and the atmosphere close and rather moist. They always open best when housed before the flower buds are too far advanced, and where they can have liberal ventilation. Any attempt at hurrying them frequently ends in damping. With the best of men scores of fine blooms are often lost after a fog. It is possible that a few early buds on some of your plants may have been taken, and this will account for other plants running up so much taller on the same plant. Sometimes insects destroy the bud, and the shoot has to be allowed to extend again to form another bud. Sometimes they miss showing a bud that would develop into a good bloom. It is not uncommon to see buds on plants such as you describe in different stages of growth.

Retubbing Seville Orange Tree (*Pelargonium*).—The tree grown in an ordinary conservatory should be retubbed about the end of March or just before it commences to push its blossom buds. The tree should be kept rather dry, but not so much so as to distress the foliage, causing it to become and remain limp. If you wish to return the tree to the same tub, remove the drainage and pick out the old soil from the base, sides, and surface of the ball with the tine of an old fork, taking care not to injure the fibres more than can be helped, and if the ball can be reduced in that way so as to admit of an inch or a little more of fresh soil all round, it may be returned to the same tub, after it has been thoroughly washed and dried, and efficiently drained with clean drainage. But if the roots are very closely matted they must not be disturbed much, merely removing the drainage, loosening the sides of the ball, and removing the surface soil down to the fibres, then afford a new tub not less in diameter and depth than 2 inches larger inside measure than the old, nor more than 4 inches. This will admit of an inch or two, as the case may be, of fresh soil, under and around the ball, the smaller shift being best. The best compost is good fibrous yellow loam, cut 2 inches thick from an old upland pasture, torn up with hands; to this add one-fifth of decayed stable manure, and to each three bushels of the mixture a 9-inch potful of crushed half-inch bones, and the same quantity of charcoal in pieces about the size of a hazel nut, incorporating the whole thoroughly. The drainage should be good, and formed of clean broken potsherds, placed in carefully, and over them some loam fibre, raising it to the required height, and rammed firmly so as to keep the compost from mixing with the drainage. Keep the collar rather high, just above the general level, to leave room for water and surface dressings, say a couple of inches below the top, and make the compost firm about the ball, taking care not to leave any space unfilled, and just cover the upper roots with soil. Do not give water for a few days, but syringe the tree two or three times a day; and when the roots are working in the new soil apply water as required, maintaining a genial atmosphere. The soil should be moderate moist when used, and prepared a month or so previously and slightly warm. If the compost is cold and wet the roots will not take to it freely. The central mass or old ball of soil and roots must be moist, but not sodden when the work is done.

Names of Fruits.—*Notice.*—Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. (*A. Reid, jun.*).—1, Cellini; 3, Fearn's Pippin; 4, Court of Wick. (*Perseverance*).—1, Minchall Crab; 2, Bedfordshire Foundling;

3, Tower of Glamis. The box was much crushed and the labels were displaced. (*F. P.*).—1, Adams' Pearmain; 2, Norfolk Stone Pippin; 3, Sturmer Pippin; 4, Yorkshire Greening; 5, Northern Greening; 6, Beurré Diel. (*J. C.*).—2, Chaumontel; 3, Beurré Sterckmans; 4, General Todleben; 5, Van Mons Léon Leclerc; 6, Winter Hawthornden. (*F. J. Gray*).—1, Uvedale's St. Germain; 2, Red Doyenné; 3, Beurré Capiaumont; 5, Marie Louise; 6, Beurré Bosc. (*J. W. H.*).—Carlisle Codlin. (*G. J.*).—1, Queen Caroline; 2, Gloria Mundi; 3, Court of Wick; 4, Mère de Ménage. (*W. M. B.*).—Your Pear is certainly not Beurré Superfin, but probably Duchesse d'Angoulême. The only security for correct nomenclature is to procure trees from some recognised authority in the horticultural world. (*R. C. L.*).—The boxes of fruit that contained no letters in them were retained a week after our notification on page 319 (October 6th) and then had to be removed. We have now attended to all the parcels which contained letters with the fruit up to the latest date for naming (Wednesday morning, 19th inst.). (*Finglas*).—The Pear appears to be one of the many continental varieties that are, like the specimen, of inferior quality in this country.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*J. C. S.*).—*Odontoglossum hystrix*. (*Amateur*).—*Sedum spectabile*.

COVENT GARDEN MARKET.—OCTOBER 19TH.

MARKET very flat indeed, with prices much depressed.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, half sieve	1	0	to	3	Oranges, per 100	4	0	to	9
Grapes, per lb.	0	6		1	Peaches, per dozen	2	0		6
Filberts, Keut, per 100 lbs.	75	0		80	St. Michael Pines, each ..	3	0		6
Lemons, case	15	0		35					

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beans, Kidney, per lb. ..	0	2	to	0	Mustard and Cress, punnet	0	2	to	0
Beet, Red, dozen	1	0		0	Onions, bunch	0	3		0
Carrots, bunch	0	4		0	Parsley, dozen bunches ..	2	0		3
Cauliflowers, dozen	2	0		3	Parsnips, dozen	1	0		0
Celery, bundle	1	0		1	Potatoes, per cwt.	2	0		5
Coleworts, dozen bunches	2	0		4	Salsafy, bundle	1	0		1
Cucumbers, dozen	1	6		3	Scorzoneria, bundle	1	6		0
Endive, dozen	1	3		1	Seakale, per basket	0	0		0
Herbs, bunch	0	3		0	Shallots, per lb.	0	3		0
Leeks, bunch	0	2		0	Spinach, bushel	3	0		3
Lettuce, dozen	0	9		1	Tomatoes, per lb.	0	2		0
Mushrooms, punnet	0	9		1	Turnips, bunch	0	3		0

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	4	0	to	6	Lilium (var.) doz. blooms	1	0	to	3
Asters, English, doz. bunchs.	4	0		8	Maidenhair Fern, doz. bunchs.	4	0		6
Bouvardias, bunch	0	6		0	Marguerites, 12 bunches ..	2	0		4
Carnations, 12 blooms ..	1	0		3	Mignonette, 12 bunches ..	3	0		6
Chrysanthemums, dozen blooms	1	6		2	Orchids, per dozen blooms	3	0		12
Chrysanthemums, dozen bunches	6	0		12	Pelargoniums, 12 bunches	8	0		12
Eucharis, dozen	3	0		6	Primula (double) 12 sprays	0	6		0
Fuchsias, per bunch	0	6		1	Pyrethrum doz. bunches ..	3	0		6
Gardenias, per dozen	2	0		4	Roses (indoor), dozen ..	0	9		2
Geraniums, scarlet, 12 bunchs.	6	0		8	„ (outdoor), doz. bunch.	6	0		8
Gladioli (various), 12 sprays	1	0		2	„ Red, per doz. blooms ..	1	0		2
Lilium longiflorum 12 blooms	6	0		9	„ Tea, white, dozen ..	1	0		2
					„ Yellow, dozen	2	0		4
					Sweet Peas, dozen bunches	1	0		3
					Tuberoses, 12 blooms ..	0	3		0

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (golden) dozen	6	0	to	12	Foliage plants, var., each ..	2	0	to	10
Begonia, per dozen	6	0		12	Fuchsia, per dozen	3	0		6
Chrysanthemums, per doz. large plants, each	1	0		3	Heliotrope, per dozen ..	6	0		9
Cupressus, large plants, each	2	0		5	Lilium lancifolium	12	0		15
Dracæna terminalis, dozen	18	0		42	Lycopodiums, per dozen ..	3	0		4
„ viridis, dozen	9	0		24	Marguerite Daisy, dozen ..	6	0		12
Euonymus, var., dozen ..	6	0		18	Mignonette, per dozen ..	6	0		12
Evergreens, in var., dozen	6	0		24	Myrtles, dozen	6	0		9
Ferns, in variety, dozen ..	4	0		18	Palms, in var., each	1	0		15
„ (small) per hundred	6	0		8	„ (specimens)	21	0		63
Ficus elastica, each	1	6		10	Pelargoniums, scarlet, doz.	6	0		9
					Solanums, per dozen	9	0		12



FRUIT AND VEGETABLE FARMING.

NOT market gardening at all; that is not what our title points to, but to the production of both fruit and vegetables—food for the people, upon a larger scale than has hitherto been

attempted. In the near future such green vegetables as winter greens, Brussels Sprouts, and Savoy's will only hold a place, and that a very secondary one, amongst vegetables for table use in winter. In the United States of America the evaporation of fruit has proved so successful and so profitable that vegetables have also been brought under the process, all kinds of vegetables being now evaporated. Peas, Broad Beans, Potatoes, Pumpkins, Vegetable Marrows, Carrots, Parsnips, Kidney Beans, and Tomatoes are all successfully passed through evaporators, the water being thus driven out, and all the nutritive properties retained in them. Vegetables so treated are available for use at all seasons of the year, being wholesome, nutritious, and palatable after ordinary cooking.

In the last quarterly number of the "Journal of the Royal Agricultural Society" Mr. Charles Whitehead has an article on "New Modes of Disposing of Fruit and Vegetables," in which he explains what is being done to extend the preserving of such produce. The matter is so important that we at once call attention to it, and we gladly acknowledge our indebtedness to Mr. Whitehead for much valuable information upon the subject.

Schemes for the extension of fruit farming are now being carried out, the land is in course of speedy preparation so as to be ready for the planting immediately after the leaves fall. What is the object in view of the planter? The general answer would probably be to obtain fruit for market. But that is not enough. Fruit growing, solely for market as fresh fruit, has often led to such a glut of one sort or other that profit has been impossible. No, the scope of the fruit grower must be much more comprehensive. It must include the sale of fresh fruit in the best way, fruit evaporation, jam, and fruit canning or rather the packing and preserving in the glass jars with metal lids which are fast taking the place of tin cans in the United States, because they do not impart any unpleasant flavour or taint of any sort to the fruit. These glass jars vary in capacity from a pint to two quarts.

Jam-making and jam factories are now in full force among the fruit farms of Kent and other counties; fruit-bottling is also making its way. Both things are well done. We have tasted several sorts of jam from an Essex factory, all of which were excellent, and there was none of the disgusting slime which is present in so much of the cheap jam now sold by grocers in London and elsewhere. With the growing demand for jam, adulteration has laid its foul grip upon the preserving pan. Let fruit farmers see to this, and by keeping genuine jam well before the public enable it to discriminate between the good and bad, and buy directly from farm factories. The Essex Company does this by sending the jam in large or small quantities, carriage paid. The fruit vans of the Swanley factories go far and wide into other counties as well as in Kent; that is precisely what is wanted—fruit well grown, skilfully preserved, profitably sold, a genuine article cheap and pure to the purchaser, profitable to the producer, untouched by the middleman. Co-operation tells here again; fruit growers combine, form a company, establish a factory, employ travellers, and thus sell their own fruit.

Well, let us go on then, this is only the beginning of things. Before us is fruit evaporation with all its marvellous possibilities, a large and ever-growing demand by the consumer, relief from the pressure of agricultural depression by the producer, employment for tens of thousands of our rural population. There is nothing vague or uncertain about it; climate, soil, and markets are all here. There is no doubt about the demand, a prompt and profitable sale is a certainty. Who will lead the way? Mr. Whitehead explains how the matter is wisely being taken up in Australia, and says, "The Queenslanders have been quick to see the advantages of the various systems of dealing with

fruit and vegetables that have been described, which are so profitably practised by the Americans, and there is no reason why they may not be successfully adopted in this country, both upon a large scale in factories and buildings for the purpose, as well as upon a small scale in the homes of the people."

We have no space for the details of fruit-canning this week; it must be explained in another paper, as it enters largely into every comprehensive scheme of fruit farming. It will suffice to add now one word of encouragement to fruit planters this season, and that is to remind them of an ever-increasing demand, of the probability of the growth of facilities for preserving fruit, so that fears of an overstocked market need not hinder them from planting.

WORK ON THE HOME FARM.

A recent journey through Derbyshire, Yorkshire, and Cheshire has enabled us to see how the corn harvest lingers in the north. The corn fields are very small, so small that the clearance of the crop strikes a visitor from the large corn-growing districts as a trifling thing, yet the work appears to proceed in a slow and unsatisfactory manner. Broken weather tells, but the first week of the present month was one of very fine weather in Derbyshire, and as we write this note in a Derby farmhouse, the weather is perfect. Our object in mentioning this is to remind dairy farmers of the importance of thorough cultivation of the small quantity of arable land they have. Curious, but true is it, that a small thing like this is so generally badly done on most farms. Take the large corn farms of East Anglia, and there the poorest land on the farm is almost invariably the few acres of permanent pasture. On dairy farms the same thing happens with the few acres of arable land. Yet rightly treated this particular portion of the farm should be so productive as to be of material use always, and a special resource in times of drought.

Late-sown Swedes are a light crop, but the roots, though small, are heavy and will winter well. Only in exceptionally cold districts would we clean and place them in heaps. In light or mixed soil on uplands this crop is most useful if left out till early spring for the ewes and lambs. There is then in ordinary seasons a nice crop of leaves for the lambs to run forward and eat before the ewe folds are made, and the labour involved in hoeing up root bottoms and setting folds is well repaid by the enrichment of the land. A slight browning of the tops of green Maize by frost is a reminder to use up the remainder of this useful green crop as speedily as possible. It has answered well this year, has helped to ease pastures a bit, so that there is a fair bite of grass now, and not the bareness which has already set some of our neighbours looking forward to difficulties about winter food for cows and store cattle. Well indeed will it be if they can be induced to bring their head of live stock well within the scope of their means, to sell all surplus or inferior animals at any sacrifice, and so to winter their store beasts that at turn-out time in spring they may go to grass in such fresh condition as to be ripe for the butcher by autumn. If money is to be made out of cattle now there must be systematic management so as to fatten on pasture and not in winter stalls.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.	
1892. October.	Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature			
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.		
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday ..	9	29.412	50.7	49.7	S.W.	49.4	55.0	40.4	91.9	35.0	0.118
Monday ..	10	29.763	48.9	46.0	W.	48.8	57.7	44.0	101.9	38.1	—
Tuesday ..	11	30.057	43.8	41.3	W.	48.1	54.7	34.4	92.2	29.2	—
Wednesday	12	30.085	44.3	42.9	N.E.	47.2	53.9	37.6	93.2	29.9	0.019
Thursday ..	13	29.924	49.9	47.7	N.E.	47.7	54.9	44.1	72.9	38.7	0.278
Friday ..	14	29.662	48.3	47.2	S.	48.1	52.8	47.0	80.7	41.9	—
Saturday ..	15	29.852	48.3	48.3	E.	48.1	54.1	37.3	81.4	31.2	—
		29.822	47.7	46.2		48.2	54.7	40.7	87.7	34.9	0.415

REMARKS.

- 9th.—Wet from 4.30 A.M. till 10 A.M., then a little sun and a storm rain 0.30 P.M. frequent sunshine in afternoon; clear night.
 10th.—Generally sunny in morning; spots of rain at 2.30 P.M.; sunny again later.
 11th.—Sunny all day; fine night.
 12th.—Bright sunny day, occasional cloud in afternoon; slight showers at night.
 13th.—Occasional sunshine, but generally overcast and spots of rain at noon.
 14th.—Steady rain from 2.30 A.M. to 9 A.M., then generally overcast, but occasional gleams of sun; spots of rain in evening.
 15th.—Fog till 10 A.M. (dense early), then sunny.
 A seasonable week, with a fair amount of sunshine. Temperature remarkably similar to that of the preceding week.—G. J. SYMONS.



IT is a very difficult matter to deal with and report on what appears so simple a matter as this, but, like several other things, it is not quite so easy as it looks. The circumstances and conditions under which the Rose is grown even in the narrow space of our own little island are so various that the estimate formed will be probably a good deal coloured by the person's own experience in his own locality. Moreover, there are various ways in which we regard the Rose season. There is first and foremost the exhibitor's point of view, and I suppose in nine cases out of ten where the character of the season is spoken of this is the matter uppermost in the speaker's mind; but then there is the secretary's point of view, where hard work and painstaking care may be all blown to the winds by an unfavourable day; and there is also that very numerous class of Rose lovers who never aspire to the honours of the exhibition table, but to whom the Rose is a delight, whether it ever wins a prize or not. Now, I am not an exhibitor. I have the opportunity of seeing a good many exhibitions, and some private gardens both of professional and amateur growers. I hear the opinions of many of them, and I ought to be able to form a pretty fair estimate of the character of a Rose season. There are a good many who in so doing have a thought of their own success or failure. They think of that storm which swept down upon them before they had time to cut the blooms, and so conclude that the whole season was a bad one.

Before the opening of each Rose season I receive a number of letters as to the prospects of the bloom. Like our weather forecasts, they are sometimes woefully wrong, although oftentimes they are the reverse. Amongst those which I received last June was one from the Rev. H. B. Biron of Lympne, who wrote very confidently about a fine Rose season, and I am inclined to think that he was right. Grand blooms have been exhibited, which linger in one's memory as none did last year, and although some of our shows were weak as far as the quality of H.P.s was concerned, yet grand blooms have been shown, while the move forward that Teas and Noisettes have made is remarkable. Grower after grower says, "I shall do away with or greatly diminish my growth of Hybrids, and go in for Teas." And this is no wonder when one thinks of their beauty, their delicacy of perfume (though a lady came to see my garden who said she hated the smell of Tea Roses), and their staying properties, for in this past season I have seen the same Rose exhibited in prize stands in shows two days apart. I could not help thinking, as I passed row after row of boxes of lovely Teas at the Crystal Palace, of what it used to be when perhaps only some half a dozen boxes were all that were seen of this beautiful and refined class.

I think perhaps the finest Hybrids that I have seen this past season were exhibited at Earl's Court at the International Exhibition on July 5th, three days after the National. I do not think that those who saw them will readily forget the magnificent stands of Mr. E. B. Lindsell in the amateur and Mr. Frank Cant in the nurserymen's classes. There is a finish in Mr. Lindsell's flowers that is unsurpassed, and what a glorious bloom of Horace Vernet was that in his stand, to which added glory was given, as it was from a cut-back. Then, has anyone ever seen anything like the blooms of Her Majesty exhibited by Mr. Frank Cant this year? If one could have any reasonable hope of getting such

blooms we might be induced to give her a space to herself, where she could not contaminate surrounding plants with her mildewy propensities to which she, Abel Carrière, and Jean Soupert are most grievously addicted. Then, how fine was the bloom of Gustave Piganeau shown by Mr. B. R. Cant at the Crystal Palace, and the lovely and brilliant bloom of Gloire de Margottin by Messrs. Merryweather & Son at Chester. One had looked upon it as a first-rate garden Rose, but its capabilities as an exhibition Rose was a revelation. Then, could anyone readily forget the magnificent stand of forty-eight blooms of Margaret Dickson, exhibited by the raisers, Messrs. A. Dickson & Sons of Newtownards? There was such a solidity of petal, such luxuriant wood and foliage, that this Rose cannot fail to win its way into favour; indeed, I do not see why it should not be regarded as the best white Hybrid we have.

Another Rose that I have noticed as especially good is Comte Raimbaud, a flower which is not grown so widely as one might have expected. Tea Roses have been marvellously well shown, and here and there general excellence has been such that it is not so easy to recollect the extra fine blooms as it is in the Hybrids. Many of the older favourites have been grandly shown. I do not think, however, that Comtesse de Nadaillac has been quite as well coloured as I have seen it. There have been some grand blooms of Souvenir d'Elise, which still maintains its high position, and comes in as the best Tea oftener, perhaps, than any other. Catherine Mermet and her daughter The Bride have been very beautiful; but really, as when one met the long array of boxes at our larger shows, the beauty of the Teas held one fast, and it was difficult to get away from them to their more showy rivals the Hybrids.

There is, of course, always a certain amount of interest attaching to new Roses, but it would almost seem as if the French raisers had got as far as they well can, for during the last two years I do not think that they have raised one Rose that is likely to be a valuable addition to our lists. There may, of course, be something that we have not yet seen, some "dark horse" which is to win the race, but since 1889 there seems to be an absolute dearth of them. I say since 1889, for in that year Gustave Piganeau came out. Now, with regard to this Rose, despite the fact that although it must be in comparatively few hands, and in small quantities, it has twice at the National carried off the prize medal for the best Hybrid, in both cases in the nurserymen's class. I cannot join in the chorus of praise which has been accorded to it, for I am afraid that is an indication of that vitiated taste which associates excellence with size. We do not want under-sized Roses, but neither do we want over-sized ones. I do not think that Paul Neyron or Ulrich Brunner are quite as much thought of as they used to be. No, it is to the home-raised flowers we must look now. I do not believe the French raisers take much care about hybridising, and where this is done one would hope for some such results as achieved by the late Mr. Bennett and by Messrs. Alex. Dickson & Sons. One of the former's Roses, of which he thought a good deal, Captain Hayward, was again exhibited this year, but I do not think it took very well; it has not improved, and is certainly under-sized. I believe the blooms exhibited at the Crystal Palace were not the first flowers, and hence perhaps their small size; but at the same time it shows it to be a very early Rose, too early for most exhibitions, and it is of that colour, bright red, of which we have so many. The same must be said of Charles Gater (Paul & Son), but this may improve, for one would like to see a really good Rose bearing the name of so thorough a rosarian.

Messrs. Dickson & Co. showed Jeannie Dickson in good form, and another grand Rose somewhat similar in colour, but entirely distinct in form and outline; it was Mrs. W. J. Grant, which obtained the National Rose Society's gold medal at Chester. I fear we are not likely to see much of it at present, for the stock has been purchased in America for a high figure, and will not be sent out until 1894. They had also another very fine Rose, which will

be put into commerce in May next—Marchioness of Londonderry. It is a very full and large flower of the Lady Mary Fitzwilliam type, and in colour white; but unlike that very miffy lady, vigorous in habit. In company with a friend I examined it closely at Chester and came to the conclusion that it was a grand bloom. At the same Show Messrs. Dickson had in their box of new Roses some promising flowers of some of which we shall hear more anon. The other day the raisers were good enough to send me a couple of blooms of the Marchioness of Londonderry, and they fully confirmed me in the opinion I had formed at Chester. At the same show Messrs. Harkness & Son exhibited two remarkable sports of Heinrich Schultheis, Merrie England and Mrs. Harkness, both oddly enough from the same shoot. The former, if it only remains constant, will be the best of all striped garden Roses; there is no muddling of colours about it, and it is a full Rose, unlike the Gallica Village Maid which so often goes by the name of York and Lancaster, (which it is not); moreover, being a Hybrid Perpetual, it is possible to obtain autumn blooms from it. There was nothing new in Teas that I can recollect, for Cleopatra is not new; and of Waban, of which some speak highly, I have not seen sufficient to enable me to judge of its merits; it is a dark pink from Catherine Mermet. Corinna (William Paul & Son) I thought a promising Rose and with a well formed pointed petal. I may here notice a Rose by no means a new one which I saw at Lord Brassey's residence at Normanhurst Court, Madame Ferdinand Jamin; it was only a buttonhole Rose but exquisite in its colouring, and planted out and allowed to ramble on the back wall of a house it gives thousands of exquisite blooms.

The personnel of the exhibitors has not varied greatly this season; some new men have come forward, some of the older ones have moved on, but there has not been much change. Colchester has held its high place as far as professionals are concerned; both the Cants have carried all before them. To the older goes the Jubilee challenge cup, to the younger the champion trophy, while probably the two best stands shown this year were Mr. B. R. Cant's stand at the Drill Hall, and Mr. F. Cant's at Earl's Court; and Colchester has yet another card to play. Messrs. Prior & Son have exhibited better this year than ever they have done, and occupied a higher position. The same may be said of Messrs. Merryweather & Sons of Southwell, who have exhibited in grand form, one of their Roses at Chester securing the medal for the best H.P. in the nurserymen's class.

I fear as far as Rose societies are concerned the past season has been a disastrous one. We all know how "upsetting" to a society is a wet day, and many a secretary who had laboured hard and striven to make his show a success was doomed to disappointment. Of the shows which I have attended this season three were held on the most execrable days that it was possible to be out in. I shall not easily forget Chester, nor do I think anyone will who had experience of it. What a sight it was when I entered the tent to see my good friend Page Roberts like another Atlas, not having the world on his shoulders, but valiantly holding up the dripping tent which threatened to swamp and mutilate his fine stand of herbaceous plants; he has well struggled with misfortune, and even had a Mark Tapley air about him, and so in many places exhibitors were trying to get their flowers out of the way of drip. The most provoking part of it was that had the show been held on the day proposed at first, it would have been fine, but the local municipal authorities willed it otherwise. Then Ipswich and Hereford were just as bad as bad could be; the former is said to be used to it, but it was a woeful contrast at Hereford to the glorious day of last year. I hear of other societies which have more or less suffered from the inclemency of the season.

There was but little change amongst amateurs, although there has been some. Mr. Lindsell is still the champion grower, but Dr. Budd ran him close, and secured the Jubilee trophy, and was first at a great many shows. Mr. Alex. Hill Grey is still the champion Tea grower, while in that same class Mr. A. Tate, of Downside, Leatherhead, and Mr. Herbert Fowler, of Claremont, Taunton, are likely to be forces with whom those who have hitherto held the foremost place will have to reckon. Mr. Orpen, of Colchester, has made an onward movement, and it is always pleasant to note that they who have begun in a very small way have advanced to a higher (if not the highest) place.

And now a word as to the Rose in the garden during the past year. The same causes which so interfered with Rose shows were also in force here. We had a grand flush of bloom, and then came heavy and dangerous storms to bring desolation in their wake. As an instance of this I had at the time of the Ipswich Show promised to visit my friend, the Rev. H. A. Berners' garden at Harkstead, but one of the most awful thunderstorms I ever experienced swept over the East of England the night before, accompanied with torrents of rain. When I met him on the morning of the Show he said, "It is hopeless, my garden is converted into a pond." I could

well believe it. Mr. Frank Cant, whose shed for setting up his Roses is some distance from his house, was imprisoned there for some hours and could not get home. Happily, in both these cases the Roses had been already cut, and when one looked at their splendid blooms a little doubt about the storm might have been felt; but alas! it was too true, and so it was that all through July, cold and dreary was too often the experience; but September made up for July, and during the fine fortnight that we experienced then I have never seen the Rose gardens so radiant. Teas we always look for, but the Hybrid Perpetuals put forth their claims to that title; for in my own garden—and I have heard the same from others—there was a great profusion of bloom, and that of Roses which might well have been July Roses. But after all, the glory of the Rose garden in the autumn is the Tea Rose. What lovely blooms one was enabled to gather of Catherine Mermet, The Bride, Madame Hoste, &c., and how very much they are preferred for house decoration to the Hybrids!

Nor must I omit the pleasure I have derived (and many others also) from the single Roses. What is there in colour to excel the Austrian Copper, or in pure rich yellow the Austrian Yellow? and to those who have space for it what a lovely thing is the single Polyantha with its sheets of white flowers absolutely covering the whole of the foliage; nor can one forget the treat given to us by Lord Penzance at the sight of those beautiful semi-double Roses he has obtained on the Sweet Briar. I believe that the Rose-loving world will have an opportunity of growing them, as they will be distributed by a well-known firm.

Such are my views of the Rose season of 1892 with its various advantages and disadvantages, and I think when we come to strike the balance we may fairly say that, although not quite up to the mark, it has been one out of which much enjoyment has been had. The fine weather of September has done much to ripen the wood, which is one of the most essential points for a good season in the ensuing year. The wet of the present month has greatly retarded the necessary operations; but perhaps a finer time may come, and rosarians are about the last persons to sit down in despondency, but hope on in the persuasion that there is "a good time coming yet."—D., Deal.

FUNCTIONS (AND WEIGHT) OF VINE LEAVES.

ALTHOUGH deeply interested in this discussion, it is with reluctance that I enter into it in any form. The weight given of Mr. Swan's Vine leaves, however, caused me to examine mine more closely than hitherto, and as the Vines are allowed a moderate extent of lateral growth, I considered the leaves to be fairly good. I cut some off, and their weight was exactly 1 oz. each, and measured a trifle more than 1 foot across. They were taken off two or three eyes from the main rod, and it is generally this portion on which small weakly leaves are to be found, especially if crowding by sub-laterals be permitted.

The Vines are planted and are growing in a span-roof house. The glass portion commences at 1 foot from the ground level, and the side shoots are encouraged to grow also from that height. The circumference of the rods at 9 inches from the ground is $6\frac{1}{4}$ inches, at 7 feet $3\frac{1}{4}$ inches. The border, an inside one, is composed of turf taken from a poor pasture ground, and old lime rubble only; but little feeding has yet been given. The Vines, the first season after being cut back, were allowed to make as much growth as possible, and when ripened pruned well back. The second season two bunches were left on each rod; the third, an average of 10 lbs. of fruit to each left to mature; the fourth, 16 lbs. This season the crop averages 20 lbs. to each rod, which is 10 feet long. Only one year did Gros Colman fail to colour well, the cause being over-cropping in this case. Both Vines and fruit have each season kept improving, with bunches and berries above average size.

Mr. Wright has, I believe, seen fruit exhibited from these Vines in past years, and this season we took some to Earl's Court on September 9th and 10th, which were awarded a silver medal. I have made some mistakes in their culture, but by those mistakes I have profited. Being over-anxious to have a good "set" I used the rabbit's tail too freely. Following the advice of a well-known grower, however, I used the tail less often, and was rewarded by having a perfect "set." Alnwick Seedling with us sets as freely as Black Hamburgh, and the berries swell remarkably well.

Madresfield Court perfected a good crop of fruit, extra large in size of bunch and berry. Seeing an article by Mr. Iggulden in the *Journal* in the summer 1891 on colouring Madresfield Court, I at once tried his teaching—namely, securing a good current of warm, dry air about the bunches by removing two panes of glass from the front ventilator opposite these Grapes. On very warm days these were taken out, in addition to the usual ventilation given, the result being berries coloured to perfection, and no cracking

occurred. I followed this treatment this season also, with a like result.

Lateral growth is encouraged on all the Vines, pinching them occasionally during full growth. On an Alicante Vine this year one shoot produced a bunch at the point of it, no growth whatever being made beyond it. As a curiosity it was left to develop. Five leaves are on the branch between the rod and the bunch, which is of extra good shape, berries of same size as the others, colour also the same. The bunch weighs about 6 lbs. I find that Muscats especially, where lateral growth is allowed, require a greater quantity of water than when stopped close to the bunch, otherwise shrivelling occurs. In the case of Muscats, and Madresfield Court in particular, I shall continue to allow a little lateral growth until I am dissatisfied with the results.

I have heard some say, "Why permit lateral growth and then have to cut it away again? It is pure waste and harmful." Undoubtedly it is if they grow unchecked and form a thicket excluding both light and air from the main leaves; but from my experience with both young and old Vines I have not yet found any evil effects from the practice, but rather benefit if moderation be the rule.

This discussion between Mr. Dunkin and Mr. Iggulden is a most valuable one, and gardeners who have not had much experience in Vine culture will find it difficult to decide which to follow, so ably do both defend their practice and teaching. Therefore I would say studiously read both.—GEO. GARNER, *Amberwood, Christchurch.*

No doubt it would be interesting to many of your readers to know whether the heavy crop of Grapes per Vine recorded by Mr. Dunkin in your last issue are Vines with more than one rod, and what length they are. This is an exceptional weight, for Hamburgs especially, to carry, and this without the aid of stimulants, for in my experience this Grape above all others resents heavy cropping in the prospect of a good finish.

Having spent a few years in a well-known establishment near the metropolis, I am well aware that market growers go in for extraordinary crops; but they work upon entirely different lines to private growers, and how long does the practice last? I for one should like to hear something about the general management to insure such fine crops of Grapes. I must confess I am a long way behind the times. Some districts no doubt are admirably suited to the requirements of various kinds of Grapes, which is of material consequence in bringing a heavy crop to a good finish, combined with a good spread of foliage and good management. I agree with Mr. Dunkin that a moderate extension of growth is one of the best methods for keeping up the stamina of the Vine for a long period. I think stopping at the bunch too sharp practice, especially if the leaves get damaged in any way, for by the time fresh growth starts it is getting late in the day to be of much service in perfecting the fruit.

This "something" in the way of colouring black Grapes, too, would be highly instructive, for, judging from the moderately finished examples we see on the average in our travels, it cannot be quite so simple as it at first appears. Grapes good enough for home consumption are produced in quantity, but they are a very long way from a first-class standard of excellence, judging from what we see staged at many of our leading horticultural exhibitions and elsewhere.—J. J. C.

[We have other communications on this subject for which space cannot be found this week.]

FRUIT GLEANINGS FROM CRAWLEY.

FROM the time that opening spring begins to tinge the trees with green until the ruddy glows of autumn stain their foliage, Crawley has attractions which merit a frequent pilgrimage. The quiet little town has a charm of its own, and its surroundings do not become less pleasant as they are familiarised by frequent observation. Visitors to whom pedestrianism is a wholesome enjoyment and not a terror, might alight at Horley if their goal be the great nursery of Messrs. Cheal and Sons at Lowfield Heath. The road winds pleasantly from the little country station into the main thoroughfare to Brighton opposite a church which stands in a beautiful setting of flower-furnished resting-places—a true "garden of sleep." A few miles away on the right lie the range of uplands which stretch away from Redhill and Reigate

towards the west, bold and beautiful in the distance, and full of delights if wandered amongst in the freshness of an October morning. Farther on, however, an almost right angular bend of the road turns the visitor towards Crawley and Brighton, and the hills of Surrey are left behind. The thoroughfare pursues a pleasant but hardly gardenesque course until the long lines of Conifers and fruit trees on the right betray the location of the Lowfield nurseries, even before the board signifying their existence there becomes discernible. A sign-post near Horley station tells you that the distance to Crawley is five miles, but two out of the five may be deducted if a call at Cheal's is in view, for the nurseries are that distance on the London side of Crawley, and, as a matter of fact, they are within the borders of Surrey.

Few plant homes present a more pleasing view to the wayfarer than that at Lowfield. It grows upon him from the first, and as it stretches along by the side of the road for a mile or more, with fresh trees, shrubs, and flowers opening upon the view at every stride, and culminates in a broad flower-lined drive, ablaze with colour from spring to autumn, with handsome foliage plants on left and right, it presents a picture such as arouses the interest and sympathy of every visitor. Its aspects are changing, of course. He who passes it week by week, as spring deepens into summer and summer mellows into autumn, anon in the freshness of early morning and again in the cool hush of eventide, will best realise its changeful features; but its charm is perennial if the material composing it be varying and diversified. A pleasant old house



FIG. 50.—APPLE THE PROFESSOR.

embowered in creepers and skirted by lawn and borders, stands on the right. There resides the venerable father of the enterprising Joseph and Alexander Cheal, the well-known partners in the firm. Though his life spans two centuries, his hair being silvered by the snows of ninety-two winters, his physical vigour is by no means exhausted, and his intellect is keen and clear. I recently heard of him wishing to dismount from a trap to pick up the fallen umbrella of a visitor, who, though bearing the honours of a long life's work for horticulture, is still many years his junior. Pure air, plain food, and hard work are the three principles which have dominated the life of Mr. Cheal, senior. They are potent antidotes to the evils that beset humanity.

CORDON PEARS.

One of the most striking sights at Crawley is the house of cordon Pears which was referred to in late spring as presenting a very promising appearance. The present being a very bad Pear year its condition when inspected a fortnight ago was the more impressive. Trees well furnished with handsome fruit bespoke the advantages of this method of Pear cultivation, which practically sets frost at defiance. General Todleben was carrying a crop of grand fruits. Bon Vicar is a September and October variety, very prolific and useful. Belle de Brussels, a Bergamot-like fruit and a good bearer, is promising. Thompson's, which is well known, was fruiting well. It is unexcelled amongst November Pears for sweetness; indeed, is too sugary to be perfect in flavour. Duchesse de Mouchy is a late variety that will perhaps become popular, being a free bearer of very large fruit. Beurré Sterckmans was carrying a very heavy crop of fruit, and this

excellent variety might with advantage be more generally grown. One of the best Pears in the house was Princess, a seedling from Louise Bonne of Jersey, raised by Mr. Rivers. It is remarkable for its fine constitution, free growth, and abundant crop of attractive fruit, which is coloured, like that of Louise Bonne, on the sun side. Princess is a valuable November Pear, and may be highly recommended. An older Pear that is doing well and is worth more extended culture is Zephirin Grégoire. It is ripe in February, is hardy, prolific, a heavy cropper, and of good flavour, admirable as a bush, as a cordon, and in fact in all forms. These are but a few of the varieties. The trees are in splendid health, as also are those out of doors; indeed, cordon culture at Crawley is a feature of the greatest interest. The trees are trained upon all manner of supports—walls, fences, arches, and others—and the routine of management is of the simplest character. This form of fruit tree is growing in popularity, as affording means of cultivating a considerable number of varieties in a comparatively limited space.

BISMARCKS FOR GERMANY.

Leaving the Pears and coming to the Apples, we have more proof of the growing popularity of Bismarck. It may be of interest to note that large orders are being received for it from Germany, where it is in great demand. This may perhaps be taken as another indication that the once all-powerful German Chancellor has not yet lost his hold upon the people, for doubtless the name of the Apple has much to do with the demand for it in the "Vaterland." When they get it they will find that there is more than a name in it, however, and it will not be surprising if some of the German market growers become a little divided in their affection for the variety, one leaning to it being brought about by patriotism and the other by profit. It is to be feared that the latter will eventually triumph, for the Apple will live long after the man of blood and iron is no more. Bismarck is a grand Apple for all-round merit without a doubt, and the high praise of Messrs. Cheal's foreman that it is in every respect as fine an Apple as Lane's Prince Albert, while likely to form a better standard, is significant.

THE PROFESSOR.

The Professor is an Apple that Messrs. Cheal grow remarkably well, and as it is comparatively little known an illustration is given of it (fig. 50). It is handsome, and the tree is a free bearer. The fruit is medium sized, round, and a little depressed; $3\frac{1}{4}$ inches wide and $2\frac{3}{4}$ inches high; bluntly angular. Skin smooth and unctuous to the touch, lemon yellow, and without any trace of colour. Eye with divergent segments, rather large, and set in a considerable depression, somewhat angular; tube funnel-shaped, stamens median. Stalk quite short, inserted all its length in a close cavity. Flesh quite white, unusually tender, juicy, and with a pleasant rather tart flavour. Cells obovate axile. A remarkably fine early cooking Apple in use in September.

A TRIUMPH IN FRUIT GROWING.

The Crawley firm's success in fruit growing, and it will be conceded that they have forced their way into the front rank, is a record of triumph over difficulties which would have deterred many even from a trial. A great part of their soil is heavy and tenacious clay. I believe the land was originally a common, but good cultivation has worked wonders with it. There are scores of acres furnished with healthy, thriving trees, not with the soft, succulent appearance of luxuriance and immaturity, but stiff, hard, and firm. They have had to fight their way, and considering everything their progress has been remarkable. There would be no fear of retrogression with such trees; indeed, if placed in better soil, their hardy constitution and strong foundation would insure a bright and useful career. Of the quality of the fruit they produce Messrs. Cheal have given many striking proofs of late. For a time they failed to get such large, clean, and well-coloured examples as those in more favoured spots, but the sheltering hedges have now got up to a sufficient altitude to serve their purpose, the soil has been improved, and so we find the Crawley fruit earlier, finer, cleaner, and richer than before, and well able to contend with that from other localities. It is an achievement to be proud of, and the reputation of the firm will grow as it becomes better known how hard they have had to strive for it.

Apples are grown on an enormous scale. The Queen, worked on the English Paradise, grows freely, and gives handsome fruit. American Mother, with its soft, tender flesh of delicious flavour, and its free-growing character, is conspicuously good. It is a splendid dessert Apple. Golden Spire does extremely well, bearing very freely, and holding its fruit for several weeks. The Forge, a well-known Sussex Apple, is fruiting abundantly. It has hardly any stalk, the fruit appearing to push directly from the spur, and consequently rough winds are powerless to affect it. Beauty of Kent has been cropping heavily, and has developed fine colour. Lady Henniker has proved its usefulness by carrying a heavy burden of fruit. Baumann's Red Winter Reinette, a good Apple, with far too long a name, has proved to be hardy and useful in every way, giving satisfactory yields of its attractive fruit. Landsberger Reinette is an Apple not very often met with, but it has proved very good indeed at Crawley, being an immense bearer, and suitable for either dessert or cooking. It will probably be found to make an excellent cordon. The sweet and attractive little Apple Jefferson, with its neat striped fruit, is worthy of a note. Of all the Apples at Crawley none gives greater promise than Newton Wonder, which is making its mark as a fine late variety. It bears heavily in a young state. The fruit has the open eye of Wellington. The texture is firm, and it is an excellent keeper. Now that planting-time is at hand the merits of this really good late Apple should have due consideration. It

would be impossible to mention every variety that has carried a good crop in the Lowfield Nurseries this year, but besides those mentioned Betty Geeson, Cox's Orange Pippin, and Annie Elizabeth may be noted. The character of Betty Geeson there and elsewhere makes one wonder that it is not more frequently met with. There is a faint reminder of Bramley's Seedling in the fruit, although the two are quite distinct, but Betty is superior in bearing well in a young state on the Paradise. On the heavy soil at Crawley Bramley's, grand Apple though it is, will not do that.

GENERAL FEATURES.

Messrs. Cheal & Sons deal so largely in trees and shrubs that a passing reference ought to be made to this feature of their large and extending business. All the popular kinds and varieties are to be observed in the same excellent condition as the fruit trees, being strong, clean, and healthy. Seeing the Crabs as they are grown at Crawley a good lesson is learned of their great value as ornamental trees. The Dartmouth, with its load of rich deep red fruits, was particularly effective. Fairy, red and yellow, also presented a charming appearance, as did the red and yellow Siberians, John Downie, and Transcendent. These trees are well worth growing for autumn effect. The Dahlias had, unfortunately, just been blackened by a sharp frost or two. The Tom Thumbs, with their compact growth and abundant flowers, must have been very beautiful. They have given a striking proof of the extent to which improvement may take place in plants after recovering from the effects of early hard propagation, and now form an extremely useful class. Some plants towards the front of a shrubbery border in a small garden this autumn have been as beautiful as any Begonias. It would be worth the while of anyone who may have been a little disappointed with them at first to try them again now that time has given them more stamina. Under glass everything was in good order. Time will not permit of details, but the large stock of Climbing Niphetos Rose was very noticeable. The demand for this valuable variety grows rapidly, and it looks like becoming as popular as its beautiful and valued parent. Messrs. Cheal have abundance of healthy plants. Rhododendrons in course of grafting also made a brave show, the number propagated being enormous. Doubtless they are utilised largely in an important feature of the firm's business—namely, garden-making and landscape gardening. Many beautiful places in Surrey, Sussex, and other counties owe their effectiveness to the plans and material supplied by the Crawley firm. That all branches of their business should grow is but the just reward of labour, for they have striven unceasingly for excellence, and have played no unimportant part in advancing British horticulture.—W. P. W.



TRICHOSMA SUAVIS.

WHEN Dr. Lindley first saw this plant he considered it to be a *Coelogyne*, but after further examination he placed it in a new genus, of which it is at present the only species. *T. suavis* was discovered and sent home by Mr. Gibson, a collector for the Duke of Devonshire, in 1840. It was found growing on the trees in the dense forests which prevail at considerable elevations on the Khasia Hills. The stems are slender, from 6 to 10 inches high, bearing a pair of bright green ovate lanceolate leaves; the racemes rise from between the leaves and bear six or more flowers each over an inch across; the sepals and petals are creamy white, the three-lobed lip has white lateral lobes striped with crimson, centre lobe recurved, yellow and brown with crimson edge, disc crisped.

This plant deserves to be more widely cultivated than is at present the case, and the beautifully scented flowers add to its value; it blooms during October and November. *Trichosma suavis* ought to be potted in peat and sphagnum, and requires a free drainage, as it should have plenty of water while growing, and when growth has ceased it must not be allowed to become dry. It is admirably adapted for cool house cultivation, although imported or weak plants should be placed in an intermediate temperature until well established.—C. K.

ORCHIDS IN BLOOM AT CHELSEA.

FOR Orchids the present is perhaps the worst time of the year for seeing flowers, especially in London, where the smoke unfortunately plays early havoc with these chaste and lovely blooms. But it would, I imagine, be a most difficult matter to walk through the magnificent range of Orchid houses at Chelsea without finding a great number of the plants bearing flowers. The *Cypripediums* are very fine, the most striking varieties noted in a rapid walk through the houses being *Arthurianum*, *Spicerianum*, *albo-purpureum*, *Cleola*, a magnificent almost pure white flower; *Chamberlainianum*, and *T. B. Haywood*. The latter is one of the most effective now in bloom. A grand piece of *Dendrobium*

Dearei looked magnificent, although it has been in flower for nearly three months. Among other *Dendrobiums* in bloom I noticed *formosum giganteum*, *Statterianum*, and *Schœderi*. *Vanda Kimballiana* is a most charming Orchid, as also is *Aërides suavissimum*, the specimen now in bloom being magnificent. In another house were good examples of *Oncidium ornithorhynchum*, very sweet scented; *tigrinum*, *flexuosum*, and *varicosum*; *Maxillaria grandiflora*; *Sobralia macrantha* and *xantholeuca*; *Cymbidium giganteum*, *Epidendrum dichotomum*, and a few *Cattleyas* in variety.—H. W.

LÆLIA PERRINI.

THE unfolding of the flowers of this fine old autumn-flowering *Lælia* is evidence of its value at this season of the year. True, there is not such a dearth of autumn-blooming Orchids now as formerly, but its freedom of growth and also flowering propensities rank *Lælia Perrini* upon a decorative point of view as one of the finest Orchids in cultivation. The white flowering variety is unique, and happy must be the possessors of it; but as the majority of us should be thankful or content with the normal form, we can look upon the other as a beautiful vision. I have three plants, and each season they advance in size and also the number of flowers, as this year the aggregate number of blooms for the three plants is twenty. Its natural habitat is said to be on the northern slopes of the Organ Mountains, which suggests comparatively cool treatment. Our plants thrive well in the *Cattleya* house, and are growing in teak baskets, the material about the roots being good fibrous peat with a little sphagnum. Whilst in full growth it takes a good supply of water, and even after flowering throughout the winter it must not be kept too dry or else its thin pseudo-bulbs will shrink, and which is not advisable.—A. YOUNG.

EDUCATION IN GARDENING.

(SILVER MEDAL ESSAY, continued from page 347.)

METHODS TO PURSUE.

IN addition to the widespread educational facilities previously mentioned, the South Kensington Science and Art Department provides, either before a lad leaves school or after for the necessary, unbroken continuity of a steadily advancing education from the elementary stages in scientific and other subjects, onward to and including the advanced stages, which may be taken advantage of by all local educational agencies. In some outlying districts this source may fail, and the student must then fall back on his own resources. Perhaps he may be able to join with others in forming a class for their mutual improvement supplemented by the help of the village schoolmaster, &c. Under these circumstances he would do well to take advantage of a change of situation, when circumstances were favourable, for one within reach of the necessary educational facilities.

It is evident that much will depend upon the educational opportunities and the rate of progress made during the early stages of the gardener's career, as to the course of study and reading to adopt. If so circumstanced as to be under the necessity of taking some or all of the elementary sciences after he has entered on his novitiate in a garden, it becomes a matter to decide whether he is able to take up more than one subject at a time; capacity to receive instruction, and time at command, will determine this point. It would be better, however, to do one thoroughly than attempt two and fail. Always keeping in view that the gardener's education must necessarily be a progressive one, extending to a later period in life than that of many others, no hard and fast line can be drawn regulating the time for study. In summer it is wise never to relax efforts entirely, but winter is the season for the supreme effort. If the student gave from two to three hours per night during four nights per week, the following would not prove a bad arrangement: Scientific subjects, Garden literature, Garden periodicals, general literature—one night each. This would leave sufficient spare time for recreation, or any sensible hobby which the inclination of the individual suggests.

The results of the young gardener's practical training will in some measure depend upon the extent and management of the establishment where he is employed, and the opportunities placed in his way. On the other hand more will depend upon the cultivation of his innate abilities, perseverance, and adaptability to circumstances, to his readiness in grasping the lessons which his scientific knowledge teaches, and assimilating it with the best results coming under his observation. At all times he must bear in mind that his wages are paid for efficient services rendered as a practical workman. His first duty to his employer and himself, therefore, is to acquire proficiency in the use of all garden tools, and to learn to perform all the needful operations in a workman-like and expeditious manner. To this end a thorough liking for

his work is necessary, combined with close observations of methods, finish, and quantity of work done by experienced workmen. Concurrently with the dexterous use of his tools he should develop the faculty of intelligently grasping all the details of his work. A good workman before he begins an operation can see it mirrored in his mind's eye as it should be when finished. This faculty prompts him to carry out the details in their proper sequence, so that no part need be twice done. Every simple garden operation requires this forethought until it becomes habitual, and no gardener worth the name will rest content until he has attained equality with the best workmen.

Having in due course dealt with the elementary "specific subjects," a systematic advanced study of them must still be continued, combining with them the purely practical into one homogeneous whole. The student before reaching this point will understand and appreciate that the gardener's education is a dual combination of skilled workmanship, and the important lessons which his ever advancing studies teach him as bearing and being dovetailed into his everyday work. The workman who possesses this knowledge and combines with it a study of methods, and the results accruing from them is accumulating sound practical knowledge of the highest order, at the same time transforming what otherwise would be objectless taskwork into interesting occupation.

A diary should be kept of all important garden operations, seed-sowing, potting, planting, dates of starting, forcing houses, &c., their day and night temperature, dates of fruit and other crops ripening, with notes and observations on data gathered. The daily readings of the barometer and thermometer, the accumulated temperature worked out; if possible the sunshine record taken on the lines carried out at the Regent's Park Botanic Gardens, observations of hardy plants and trees leafing and blossoming, first flowers opening, and first leaf surface visible, fruit ripening, and the beginning of natural defoliation, are all advantageous to the young gardener. A regularly kept diary of this description might be made into a reliable standard of the climatic conditions affecting the vegetation of the locality where kept. One section of observation could be used to check the other, and thus discrepancies would be reduced to a minimum, serving as a valuable guide as to the hardiness and earliness of plants and crops, the most suitable time to sow and plant them, and other data bearing on productiveness and suitability to position. To lessen individual work of this description different branches might be allocated, and an individual and collective summary made where several gardeners are kept.

Visiting horticultural exhibitions, good garden establishments, botanic gardens, public parks and nurseries, is of so great utility that every opportunity should be taken to do so. Useful lessons in degree of culture, methods, economy of labour, plant and tree nomenclature, arrangement of colours, and general effect in flower gardening may be thus acquired, besides opening out extended fields of observation on cultivation and general management. The interchange of opinions on both successes and failures are also important factors in ripening the judgment and promoting sound useful knowledge.

Colleges or schools of horticulture may be considered to be in the experimental stage. Amongst others which space forbids reference to, there is one point which must militate against their permanent success as purely educational agencies for general gardeners. The cost of a two or three years' course would generally prove to be a bar, amounting in time and money to a larger sum than the prospects of a paying return would justify. The well paid appointments are too few, even where the cost could be afforded, to risk a livelihood upon. On the other hand, the general gardener by self education and supplementary aids thereto, is adopting means to improve his position, which of itself is a powerful incentive to success, whilst it remains to be proved that those who possess wealth to be able to take advantage of this means of high-class teaching would be the class of men who could hold their own position, or compete all round with those who under educational drawbacks have made British horticulture what it is to-day.

Gardeners' improvement societies have become recognised educational agencies. When properly managed, they furnish their members with opportunities for discussing details of culture and getting directly to the root of any cultural question they are seeking information upon. Writers of "essays," although supposed in this respect to be the teachers, receive the greatest educational benefit of anyone concerned. The discussions impart confidence and discrimination in speaking, thereby improving the address in ordinary conversation. The library facilities give opportunities of consulting books which are beyond the power of purchase by individual members. The general usefulness and value of these societies will largely increase as the education tide rolls onward; a greater proportion of the members will be able to take part in the

discussions, speaking with the increased authority and confidence which education carries with it.

The gardening Press in a general way covers the whole field of horticulture, and from this point of view is the greatest educational agency we possess. At prices within the reach of all, we are kept abreast of all matters in connection with the "craft," by the best practical men of the day, who know well that their teachings must be sound, or woe betide them. The lynx-eyed critic is at all times on the alert to discover the weak point in their armour, and any controversial question arising gets well threshed out, so the general reader reaps the benefit; the editorial supervision winnows the chaff from the grain, and condenses into a reasonable compass pabulum suitable for all degrees of gardeners. Thus week by week we have to hand an invaluable gardeners' educational agency, which has led the van in horticultural progress. In the new educational era upon which we are now entering we have hope and faith that it will still continue to do so, but the young gardener must understand that as the only source of instruction it would not suffice, by reason of what may be termed its non-continuity. It is in this direction that the extreme value and utility of good books is made evident.—T. GARNETT.

(To be continued.)

MONTBRETIAS.

ON noticing Mr. Wolley Dod's note on these flowers in last week's Journal, and the difficulty experienced by some growers in saving them during severe winters, it may not generally be known that the bulbs can be lifted—say, early in November—and dried off in the same way as Gladioli, Tigridias, and similar late-blooming bulbous plants. They should be kept cool and dry (out of the reach of severe frost), and be planted again about the end of February or early March, as weather permits. When lifted it is important that all stems and foliage be cut clean away at the time of taking up, otherwise the bulbs are apt to shrivel; and secondly, not to cut the stems nearer than about an inch from the crown of the bulb, as the lower part of the stem sheaths the main embryo eyes for the following year's growth and bloom.

The yellow varieties, such as Aurea and Gerbe d'Or, appear to be much more tender than the reddish-coloured varieties. All the former left in the ground during the past two severe winters were killed, while patches of the typical red crocosmæflora has had a continued existence as a hardy plant here, without any protection, and has withstood frost within a few degrees of zero.

We have found the flowers and spikes from the dried bulbs to be much larger and finer than from those left in the ground all the winter, and to bloom quite as early, each full-sized bulb sending up three or four strong main stems, with large spikes of flowers to each. Pottsi is a very hardy variety, but its shyness of blooming compared with the other varieties is much against it, though possibly the drying-off process and replanting the detached, full-sized bulbs might be the means of greatly improving it in this respect, but we have never put this to the test.

The plan described for the Montbretias we find answers equally well for Gladioli of the purpureo-auratus type (Lemoinei hybrids), of which so many complaints are made of their doubtful hardiness when left in the ground all the winter. Some of these lifted last November, dried off, and not replanted until April, have bloomed exceedingly well, and the new bulbs in finer condition than when left in the ground all winter with protection.

Gladioli and Montbretias are such fine autumn flowers, their bright colours contrast to the pale hued Michaelmas Daisies blooming at the same time, and long after the first slight frost of autumn has marred the beauty of Dahlias, that I am tempted to send these few notes, hoping they may be of service to those who have hitherto experienced difficulties in cultivating these plants.—J. BURRELL, Cambridge.

DISCUSSION ON APPLES.

THE INFLUENCE OF SOIL.

IN a note on Apples, page 257, allusion is made to Frogmore Prolific, and it is questioned as to whether the soil or the stock is the cause of variation in the manner in which this Apple crops and succeeds in different places. This remark applies not only to Frogmore Prolific, but to many others. My opinion is that the soil is much more to blame than the stock for such wide variations in the manner in which varieties behave in different localities. In some soils, generally those that are heavy and retentive, and consequently colder in winter and spring, we find certain sorts will barely exist, to say nothing of giving a full crop of fruit, while in another place where the soil is contrary in its component

parts we find the same sorts heavily laden with fruit. In my experience I cannot call to mind a single instance where the same kinds of Apples have been planted in the ordinary way on soil similar in character that have exhibited any change in their manner of progress. I mean one that has succeeded while the same sort in a similar soil has failed.

I am strengthened in my conviction that it is the soil which has to do with the success or otherwise of certain varieties by experiments made during the present year in the method of planting certain sorts. I have trees of the same sort growing under various conditions, and can plainly notice a difference in the manner in which they behave. Two trees of Schoolmaster exhibit a marked difference in their fruit. One tree is planted in the ordinary way, the soil not raised above the surrounding level; some of the fruit on this tree are cracked, covered with specks, and otherwise disfigured; the foliage is also pale in colour. Tree No. 2 is growing on an elevated mound, 15 inches at least above the surrounding ground level; much of the extra soil is decayed vegetable refuse and leaf mould. The fruit borne by this tree is absolutely without speck or crack, and the foliage is of a dark green colour—the picture of health. I have many varieties growing on these mounds, and promising they look. It will be necessary to add more soil or decayed refuse yearly for the roots to run into, so as to encourage them to remain in the best position—close to the surface. Why I consider these mounds beneficial to some sorts is that the soil in which the roots are must be warmer at all times of the year, and certainly drier than though it were mainly below the ground level. Of course this method of planting entails more labour in the matter of mulching and watering during dry weather in summer, but if by this extra outlay we are enabled to cultivate sorts otherwise a failure the extra trouble will be of small moment.

One too often reads that certain varieties should be planted owing to their good qualities, but such advice is very often unaccompanied by the assurance gained from a practical knowledge that the same sorts will flourish in any soil. This I consider a very fallacious manner of giving advice. If persons would say if the same sorts will succeed in all soils, then the advice would be more reliable.

LORD GROSVENOR.

This is undoubtedly a grand kitchen Apple for early use. Where Lord Suffield does not succeed, and there are many such instances, this sort should be planted. Here Lord Suffield has been a failure for many years until this season, when it has given us abundance of fruit. Why this has been so I do not know, unless it was the dry weather experienced during May, which certainly favoured the setting of the fruit. In our soil the trees make such little growth that many of the shoots made during the summer die the following winter. In this respect Lord Grosvenor differs very much, appearing to be hardier in constitution and more fitted to plant in our heavy cold soil. Lord Suffield succeeds admirably in the lighter soil overlaying the red sandstone rock north and east of Liverpool. There it is a great favourite, and deservedly so; nothing could excel the crops of fruit I have seen there of it. Perhaps Lord Grosvenor is the most profitable early kitchen Apple we have. The fruit is ready for the market the first week in August, and good prices are then realised. Lord Grosvenor needs but little attention in pruning. The growth is short-jointed, rather erect, which is a point in its favour where a quantity of trees are to be planted on a small space. This variety is not averse to a liberal supply of stimulative food in the shape of liquid manure and mulchings of partly decayed horse droppings for heavy land, and that from the cow house in the case of light sandy soil.

EMPEROR ALEXANDER.

This is one of the shy bearing sorts in the garden here, although the growth is fairly good. Its barrenness cannot be caused through want of root-pruning or restriction of its branches, because the tree has had plenty of both. I attribute its almost sterile condition to some chemical element contained in the soil to which it objects. In a garden not more than a mile from here this variety trained as an espalier bears annually full crops of highly coloured fruit. The soil in that garden is much lighter in texture than is this, consequent upon the presence of so much chalk, both near the surface and impregnated with it.—E. MOLYNEUX, Swanmore, Hants.

FIVE CROWN OR LONDON PIPPIN.

THIS variety is growing in a cottage garden near me, and it has not failed to give a full crop the last ten years to my knowledge. It is a kind of a bush-formed tree, the lower part having some large limbs, the smaller branches being cut off to make head room. The tree is planted in the middle of a hedge, by which a path runs. It is an excellent cooking Apple. Its name is

taken from the shape of the fruit, the ribs forming at the top a crown of five parts.—YORKSHIREMAN.

NELSON CODLIN.

THIS is a sweet variety of good size, greenish yellow when ripe, and a fairly good cropping sort. The tree is of dwarf habit, not unlike Keswick Codlin in this respect, and, though subject to canker, it is on the whole a useful sort. It is not exactly an early variety, as the fruit keeps in capital condition till February.

KING OF THE PIPPINS.

This Apple has in certain quarters been so much depreciated that there may be some hesitation to grow it. As a dessert fruit it is not equal to such as Cox's Orange, but there are dessert sorts which are not one whit better as regards flavour. The tree possesses a healthy constitution and a dwarf habit of growth. The fruit is not large, but if the crop is thinned early in the season the Apples will swell considerably. As a cooking Apple, King of the Pippins is well worthy of attention, and in soils where it does not develop a dessert flavour it will be found to be one of the most useful for the kitchen. I allow the fruit to hang late, and gather it as it becomes ready.

COX'S POMONA.

This is a very pretty well-flavoured Apple, which may be employed in the kitchen or occasionally for dessert. The tree is of medium spreading growth, which cankers rather badly with me. Young trees produce very handsome fruit. Though a soft Apple the fruit must be allowed to hang late in order to develop its flavour.

WARNER'S KING.

This may be designated the Apple of many aliases. Most gardens possess it under more than one name, and not a few nurserymen catalogue it under a variety of designations. I knew it first as Hawick King, and then as Nelson's Glory. It is extensively cultivated as D. T. Fish. I have also seen it under the name of Barker's Seedling and Cobbett's Fall. It is a very distinct Apple, and is quite easy to determine.

KESWICK CODLIN.

I see that this old favourite does not give universal satisfaction, but according to my experience it deserves a place in the front rank of culinary Apples. Under the treatment I have for many years given it I could desire nothing better. We begin to use the small fruit after Early Julyan is past, and later on the largest fruits are removed, allowing the others to remain, when they swell to a good size. As a jelly Apple Keswick Codlin is first-rate. It seems to do best on a system of spur-pruning, and it is necessary to remove all small spurs which appear incapable of bearing fruit. Some old trees which have nothing but small spotted fruits were completely rejuvenated by the simple process of thinning out the many spurs with fruitless buds. Aged trees I would boldly decapitate, and expect in three to four years to have a fair crop of beautiful fruit.

APPLES AND LIGHT SOIL.

It is due to Mr. Raillem to state that the light soil I referred to is not of a loamy nature. The class of soil quoted in his note I should consider just medium for Apples of all sorts; and, indeed, for all kinds of fruits. I can assure Mr. Raillem that Lord Suffield, Cellini, Stirling Castle, Blenheim Orange, Dumelow's Seedling, and Tower of Glamis, all of which are first-rate sorts, cannot be depended on when grown in light soils. The trees do not thrive, some do not bear freely, and the fruit is deficient in size and quality. On the other hand, I have seen each of them doing splendidly on heavy soils; in some cases approaching to clay.—R. P. BROTHERSTON.

BEAUTY OF HANTS.

I DRAW attention to this Apple once more to refer to the very remarkable results found in the drying experiments conducted at Chiswick, and reported in the *Journal* last week. Here we find such solidity or firmness of flesh that the dried yield is 6 ozs. from 10 lbs. of fruit in excess of that obtained from Blenheim Pippin, so that here is conclusive evidence, were any needed, that the varieties are dissimilar; 6 ozs. excess may not seem much on 10 lbs. of fruit, but were the quantity 100 lbs., and the same proportion of dried product maintained, their increase would be 5 lbs.—a very material quantity, and making an immense difference in a profitable aspect were the amount dried product from a ton of Apples. It is interesting to note that whilst the popular Lord Suffield gives only 1 lb. 2 ozs., the Beauty of Hants gives exactly double the quantity of dried product from 10 lbs. How that fact illustrates the difference there is between the texture of many varieties, for the biggest is not always the best.—A. D.

COLOUR IN APPLES.

MR. MOLYNEUX almost beat the record in the very beautiful colour he has been able to induce Mère de Ménéage to put on at Swanmore Park; and his Cox's Orange Pippin, showed with these at the Drill Hall the other day, were also remarkable for high colour. But it was a striking fact, yet perhaps borne out by most Apple growers' experience, that the very high colour left something to be desired in flavour, as that was not so good in the Swanmore fruits as in those devoid of colour from Hastings. Whilst it is no guarantee that a rough or russetty skin is allied to flavour, yet it is a fact that great beauty and high colour afford no indication of the presence of flavour also; indeed, we have hardly a rich-coloured variety in cultivation that can at all approach in flavour to Ribston, Cox's Orange, and other dull coated Pippins, such as the Cockle's, or of some of the Russets, or Margil, or of many others that could be named. Colour always tells well with judges of exhibition dessert fruits, but were these tasted it is probable that they would lose in flavour what they gain in colour, hence dull coloured fruits should be tested for flavour when found in competitions.—A. D.



EVENTS OF THE WEEK.—Horticultural events will be numerous during the ensuing week. On Tuesday, November 1st, the Committees of the Royal Horticultural Society will meet at the Drill Hall, Westminster, particulars of which are given elsewhere. The annual Exhibition of the Kent County Chrysanthemum Society will open at Blackheath on the same day, as also will one at Brixton. Croydon Chrysanthemum Show opens on Wednesday, November 2nd, as likewise do Portsmouth, Guildford, and numerous other Exhibitions. A list of some of the leading Shows will be found on another page. Several sales will take place at the various auction rooms.

— THE WEATHER IN LONDON.—During the past week the weather in the metropolis has been of a variable character. Sunday was bright but cold, with a frost at night, similar weather continuing on the following day. Tuesday proved dull with occasional showers but a sharp frost occurred at night. At the time of going to press the weather is bright and seasonable, the wind being in a north-easterly direction.

— ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Society will be held as usual in the Drill Hall, Westminster, on Tuesday next, November 1st. At 3 o'clock in the afternoon a paper on "Fruit Trees in Pots" will be read by the Rev. W. Wilks, M.A., Secretary of the Society. Among the exhibits Chrysanthemums will doubtless form a conspicuous item, especially as the Council have offered prizes for competition in three different classes. Growers wishing to enter the lists should communicate with the Superintendent of the Show as to space, &c.

— GARDENERS' ROYAL BENEVOLENT INSTITUTION.—Intending candidates for the next election of pensioners on the funds of this Institution should at once apply for the necessary forms of application, which must be returned to the Secretary on or before November 25th next, after which date they cannot be received.—GEORGE J. INGRAM, Secretary. Office, 50, Parliament Street, London, S.W.

— THE FRUITERERS' COMPANY AND THE LORD MAYOR.—At the Court of the Company, held on the 18th inst., the following resolution was passed unanimously:—"That the cordial thanks of this Court be presented to the Right Honourable the Lord Mayor (Sir David Evans, Bart.) for his courteous and generous hospitality at the Mansion House to the members of the Court and their ladies on the 12th inst., and they desire to place on record their belief that such occasions have a distinct influence in the promotion of the objects of the Company, which include the more extended cultivation of hardy fruit in the British Isles."

— FRUIT AND THE LORD MAYOR'S SHOW.—In reference to our intimation last week we are able to announce that active steps are being taken by the Fruiterers' Company in having a representation of home-grown fruit in the historical procession on Wednesday, November 9th. The Committee appointed to carry out this project

consists of the Master of the Company, G. J. Brocklesby, Esq.; the Upper Warden, Henry Martin, Esq.; Renter Warden, the Chevalier Sperati; Past Masters, Sir James Whitehead, Bart., M.P., and H. R. Williams, Esq., with the following Liverymen—Messrs. G. Bunyard, J. Cheal, A. H. Smce, J. Wright, and Mr. John Eagleton, Clerk of the Company. At a meeting held in the Guildhall on Monday last the general design of the trophy was decided upon, and the offer of Messrs. Bunyard and Cheal to supply fruit was accepted. The fruit car is to be prepared at Maidstone, and the details of furnishing carried out by Mr. Bunyard, Mr. Cheal giving his willing co-operation. This representation will bring fruit before the million in a way in which it has never been brought before, as no crowds equal in number those of the Lord Mayor's Show, for the densely packed sight-seers extend for miles.

— CHISWICK GARDENS.—The Michaelmas Daisies, which for a long time past has been one of the chief floral features in the Gardens of the Royal Horticultural Society at Chiswick, have now practically finished flowering for this year. Their place, however, has been filled by the large collection of Chrysanthemums, which have been moved into the large conservatory. The plants are in a fine healthy condition, and will soon be a mass of flower worth seeing during the winter months.

— A NEW CANNA.—An American contemporary states that a gardener in the United States has raised a Canna which is said to be an improvement on Madame Crozy. It is reported to have a golden band a quarter of an inch wide around the petals instead of the narrow yellow margin, as in the above named variety.

— A DOUBLE-FLOWED MUSK.—Last year, says an exchange, one or two well-known firms obtained a supply of a new double-flowered Musk. It came as a novelty from Germany, and is found to do admirably in pots. The small, double, sulphur-coloured flowers are produced from every joint, and the pronounced Musk-like odour from the leaves and flowers is very powerful, a single plant being sufficient to scent a whole room.

— PRESENTATION TO MR. J. ROSE.—In giving up the charge of the gardens at Lockinge House, Wantage, recently, Mr. J. Rose was presented with a handsome silver biscuit box by Lord and Lady Wantage. The under gardeners also gave him a marble clock; the upper servants at Lockinge a dozen silver teaspoons and a pair of sugar-tongs; and the members of the cricket club a cruet stand. Mr. Rose has now gone as head gardener at Wokefield Park, Reading.

— HELENIUM AUTUMNALE.—This North American hardy perennial plant should be grown in every garden in which herbaceous plants find a place. The branching stems spring from a compact tufted rootstock with great regularity, attaining to a height of from 3½ to 4½ feet, and crowned with pure yellow flowers 4 inches in diameter in August, September, and the early part of October. The plant is a good grower, free flowering, and it is not particular as regards soil and climate. It is not only a very showy border plant, but also a very serviceable one for providing cut flowers.—H. W.

— APRICOTS AT MAIDSTONE.—Apricots are excellently grown in the nurseries of Messrs. G. Bunyard & Co. at Maidstone, where a house has been erected specially for them. The sides, as well as the roof, are of glass, resting on three courses of bricks, and the central squares are removeable, so that abundant supplies of air, which are as necessary to Apricots as to Chrysanthemums, can be admitted. Copious supplies of water are given in summer, a little only in autumn, and none in winter. Mr. Bunyard attributes his success largely to the ventilation and watering. He also considers it best to plant out maidens, and not older trees.—W. P. W.

— LAO TEA.—The "Kew Bulletin" gives some interesting information as to Lao tea. Some time ago a singular method of using the leaves of what has since been proved to be the Assam Tea plant of commerce (*Camellia theifera*) was brought before the Society of Arts by Mr. Ernest Mason Satow. Amongst the Laos, a people inhabiting the district of Siam, in the neighbourhood of Chiengimai, the Tea leaves are not used for making an infusion, as in other countries, but are prepared wholly for the purpose of chewing. The leaves are first steamed and then tied up in bundles and buried in the ground, for a period of about fifteen days. Leaves thus prepared, called locally "mieng," are said to keep for two years or more. The habit of chewing "mieng" is almost universal among the Laos, and to men engaged in hard work, such as poling or rowing, it is said to be almost indispensable.

— GARDENING APPOINTMENT.—We understand that Mr. S. J. Brown has been appointed head gardener to Lady Cust, Leasowe Castle, Birkenhead, Cheshire.

— PRIMULA JAPONICA.—This plant seems quite at home here, growing in the grass by the side of shaded walks. Perhaps other readers have not grown it thus.—S. SCOTT, *Buckingham, Co. Roscommon*.

— CALIFORNIAN PEACHES.—A large number of Californian Peaches have been on sale in the metropolitan markets during the past week, but they do not maintain the reputation acquired at the commencement of the season.

— NATIONAL AURICULA AND CARNATION AND PICOTEE SOCIETIES.—The annual general meeting of the Southern Section of these Societies is announced to be held to-night (Thursday), Oct. 27th, at the Hotel Windsor, Victoria Street, S.W.

— BOUGAINVILLEA GLABRA.—As stated on page 339, this plant is quite safe in a temperature of 45° and much lower. I have known a large specimen stand a few degrees of frost several times during the winter without doing any injury, having flowered freely the following summer.—S. SCOTT.

— THE CARNATION AND PICOTEE UNION.—Mr. George Chaundy writes under date October 18th, 1892: "Mr. Dodwell is very seriously indisposed, and his physician, Dr. Rivers Wilson, insists upon his complete repose. The forbearance of correspondents whose letters may not have instant response is respectfully entreated." All the friends of the veteran will be pleased to hear of his speedy recovery.

— WEATHER AT LIVERPOOL.—On Sunday, Monday, and Tuesday evenings in last week we experienced rather severe frosts, the record being 6°, 9°, and 4°. Since then the weather has been of a most unsatisfactory nature, rain in torrents and severe hailstorms being very prevalent. It is a gloomy outlook for the farmers, and bad enough for those contemplating a large amount of planting.—R. P. R.

— NEW POTATO, BRINKWORTH'S HEAVY WEIGHT.—This fine Potato will, I think, be much grown in the future when its good qualities become well known. It is an enormous cropper, and is also of splendid quality when cooked. The tubers turn out like balls of flour, and so far as appearance and flavour go will, I think, suit everybody if we except those few individuals who prefer waxy to floury Potatoes. The tubers are large, handsome, and pebble-shaped, and should prove valuable for exhibition purposes. One slight drawback to this variety is that it makes a large amount of top growth; this may, however, be obviated to a great extent on some soils and during more sunny seasons.—H. DUNKIN.

— TWO PRETTY NEW FERNS.—The new Ferns I am about to notice are quite distinct, and are two of the finest introductions of late years. The "True Maidenhair," *Adiantum capillus-Veneris*, is one of the hardiest of Ferns, but add to this what I may term a miniature *A. farleyense*, then you have the true character of *Adiantum capillus-Veneris imbricatum*, the latest acquisition of the Chester firm of Dicksons. It is likely to prove itself a splendid Fern for decoration. *A. farleyense* in this respect is too tender, it quickly feeling the wear and tear of such work, but the Fern under notice worthily fills this void. The other, *Pteris Victoriae*, is not any the less remarkable, its slender, erect and narrow fronds being of a pleasing green margined with white, and will prove itself to be an elegant plant for table decoration. I am growing it in an intermediate temperature, but upon further acquaintance it will no doubt conform to cooler treatment.—A. Y.

— MARECHAL NIEL ROSE IN POTS.—I saw recently in one of the houses at Longford Castle gardens a quantity of very fine rods of Maréchal Niel Rose, which Mr. Ward had obtained by striking cuttings in warmth in February, and growing them on in pots. When I saw them they were some 15 to 20 feet in length, good hard wood tied up to the back of a house to mature. Such plants as these, literally like pot Vines, but longer, will next spring carry a grand lot of blooms, and then when the bloom is over can be cut hard back, induced to start afresh from the base of the stems, and then shifted into pots a size larger, will again carry grand growths for the following season. Myriads of pot plants of Maréchal Niel have been spoiled for good by the growers neglecting to cut them hard back as soon as the bloom is over. Then they have found only bare stems and a few thin pipey shoots to follow. As to the course adopted with such success by Mr. Ward it is only to say that he follows it up annually, and thus always has a fine lot of plants in pots to flower.—A. D.

— A CORRECTION.—In the list of certificates and awards given by the Royal Horticultural Society it was inadvertently printed in our last issue, "Mr. Seward, gardener to J. Shrimpton, Esq.," whereas it should have been Mr. Shrimpton, gardener to W. Seward, Esq.

— CROTON AUCUBAS.—This is the term that has been applied to the hybrid Aucubas of which Mr. George Paul is getting together a collection at Cheshunt, and it is a very appropriate one, for there are many Croton-like variations in the beautifully marked leaves. Some are blotched, others spotted, and still others striped with broad flakes. They will add much effectiveness to these useful plants.

— FRUIT GROWING IN IRELAND.—Mr. John Howard Parnell, who has taken possession of Avondale House, County Wicklow, has begun to experiment with some new industries in Ireland. He will embark in fruit growing, and it is said has already erected machinery for producing what is known as "wood-wool," a substance used for many purposes, amongst them the stuffing of mattresses and packing of fruit.

— THE INFLUENCE OF ELECTRIC LIGHT ON VEGETATION.—The researches of M. Bonnier on the growth of plants and trees under the influence of the electric light have led him to conclude that the electric light is decidedly less effective in promoting vegetation than solar light; but as he does not state the intensity of his artificial light as compared with that of solar light his conclusion is open to dispute.

— FRUIT CULTURE IN CORNWALL.—It is stated in reference to the fruit-growing industry in Cornwall that, "the latest idea is to start model fruit farms in various parts, and by the aid of the landowners to plant trees of all kinds and to utilise the best known skill for bringing on early fruit. It is calculated that in about two years and a half these farms will be not only self-paying, but will yield a good profit for the original outlay."

— CYPRIPEDIUM INSIGNE CHANTINI.—The pick of a choice collection of Cypripedium insigne varieties in the Old Nurseries, Cheshunt, is Chantini, a most beautiful Orchid, differing widely from the type in its markings. The broad margin of white to the dorsal sepal lends a charm and delicacy to the flower that cannot fail to please. C. i. alba marginata is also delightful. A collection of insigne is full of interest to Orchid lovers.

— TREES IN PARIS.—According to the *Revue de l'Horticulture Belge*, Paris contains the greater number of trees than any other city in the world. In the parks and Parisian gardens no less than 299,294 shrubs and 22,038 trees may be counted. The number of trees planted out in lines is about 100,000. Of all the quarters of Paris the best division is Passy. Then come the Champs-Élysées, Grenelle, Montparnasse, the Ternes, and Maison-Blanche. It is in the second district that the fewest trees are found.

— THE WEATHER IN THE NORTH.—The past week has been throughout cold, but the days generally clear and bright. Frosts of from 2° to 8° have occurred nightly, and this morning 15° are registered, with hoar frost as white as snow. For some days the surrounding hills have been coated for a considerable way down, and heavier falls of snow are reported from both north and south. Saturday last was piercingly cold. There is no appearance whatever of a change.—B. D., *S. Perthshire*. From Dumfries Mr. Arnott writes:—"Weather very cold. Snow on the hills this morning (Oct. 24th), but in sheltered situations in my gardens Dahlias and Tropæolums are still untouched by frost."

— TOMATOES: YELLOW v. RED.—"D.," on page 308, says: "The theory that yellow Tomatoes invariably have a higher flavour than red ones will not bear examination." Permit me to say that my crop of Tomatoes for the past year exceeds 2000 lbs., and that I am weak enough to grow a great number of sorts, simply to test their cropping and other qualities. I also consider I have consumed enough Tomatoes to be a judge of flavour. No variety I have yet grown is equal to Sunrise, an American introduction, but I find it has already been renamed by many seedsmen. Not alone is it superior in flavour, but the flesh is more solid than any red I know. There is certainly a prejudice against yellow Tomatoes, and they are not anything like the croppers that red ones are. I consider Tomatoes vary as much in quality as Plums, Peaches, and other fruits. Some of the sorts are little better than a mass of seeds and water. None of the oblong or Plum-shaped varieties are worth growing for flavour; even the Old Red and most of the corrugated fruits are only second rate compared with such varieties as Perfection with its many synonyms, Lorillard, and Red King.—W. J. C.

— A WIRE-BOUND APPLE TREE.—In a garden at Mayfields, Farnham, a Blenheim Orange Apple tree, says a contemporary, has a wire fence attached to a limb, the wire having been completely embedded in the bark, in tire-fashion. This year the particular branch is loaded with fruit, while other parts of the tree are nearly barren.

— A HEAVY RAINFALL.—It was stated recently by a correspondent that the fall of rain (2.65 inches), on the 4th inst., at Cross-in-Hand, Sussex, was such that "the oldest inhabitants of this district cannot remember anything like this rainfall." We ("Meteorological Magazine") think that the memory of these good persons must be failing rapidly, for as recently as July 31st, 1888, over an area of quite 100 square miles, and within about ten miles of Cross-in-Hand, if indeed it did not reach there, the fall was between 3 and 3½ inches.

— FROST IN THE ISLE OF WIGHT.—This morning (24th inst.) all our tender plants, such as Tropæolums, Dahlias, &c., were cut down by frost. We have had 5° with rather a keen north-easterly wind. The frost about a fortnight ago was very partial. At Newport, in the centre of the island, the Dahlias were killed to the ground, being a great loss to the several florists, as cut flowers were in great demand. It is the earliest frost that has been known here for a generation. In the valley, on the reclaimed land, the plants were only partly touched. Dahlias, Beans, and Vegetable Marrows having the top foliage killed; but in the villages here all the summer occupants have been gay until this morning.—C. ORCHARD, *Bembridge*.

— RUDBECKIA LACINIATA.—This is a fine late-flowering hardy perennial plant, producing its large handsome golden flowers borne on branching stems 5 feet high in August, September, and October. The individual flowers measure about 5 inches in diameter, the embossed chocolate coloured discs contrasting effectively with the beautifully golden florets. The Rudbeckia will flourish in any light well drained soil of average fertility, and preferably warm situation. R. maxima is a large form of the above, attaining to a height of 6 feet. R. Newmanni (syn. speciosa), and growing from 1½ to 2½ feet, according as the soil is poor or rich, is one of our best hardy plants in cultivation; yet we do not very often meet with it in gardens. All the Rudbeckias are very suitable for cutting from for garnishing large vases intermixed with Michaelmas Daisies.—H.

— BOUVARDIAS.—During the months of September and October there are few plants which tend to brighten the greenhouse more than Bouvardias. The treatment I give these free-flowering plants is to make a slight hotbed with leaves and stable manure about 1 foot high, and on this place 9 inches of loam and leaf soil in equal proportions. The plants are put out about the first week in June, and require but little attention except watering. They are kept well pinched back so as to form good bushy plants by the first week in September. At that period they are lifted and potted, the balls of the plants being reduced, so as to get them into pots or pans, which I find to answer much the best. After potting the plants are put into a warm house, and being kept close and shaded for a few days they are soon ready for the show house without losing any of the blooms.—A GARDENER.

— FUNGI DISEASES ON FRUIT TREES.—An excellent paper on fungous diseases and their remedies was read lately by Prof. J. E. Humphrey before the Massachusetts Horticultural Society, and has now been printed. One of the principles on which he insists is that the treatment of these diseases, to be efficient, must be preventive rather than remedial. He points out that it is not enough to take care that plants shall have abundant nourishment. No practice, he says, is more common among American fruit growers than to leave in the vinery and the orchard, lying on the ground or hanging from the branches, the dead fruits of the season, which have been rendered worthless by fungi. Nothing could produce more unhealthful conditions, for these dead fruits commonly furnish to the fungi which attack them precisely the most favourable soil for further and complete development. In the next spring the air is full of the spores of these fungi, which find lodgment on the new leaves and fruits of the very plants on which they grew last year; and so the story goes, year after year. "In a word," says Prof. Humphrey, "keep your orchards and gardens and greenhouses clean. Allow no rubbish to be about on which fungi can breed. Remove and destroy all diseased fruits or plants as scrupulously as you preserve saleable ones, and you will have more saleable ones to preserve. It is surprising how far generous culture and clean culture will go toward preventing fungous disease, without special treatment."—(Nature.)

— BOURNEMOUTH AND DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—"The Composition, Uses, and Abuses of Farmyard Manure" was the title of an excellent paper read by Mr. A. Skinner, gardener, Highcliffe Castle, Christchurch, at the meeting of the above Society on Wednesday, October 19th. An interesting discussion followed, and Mr. Skinner was accorded a hearty vote of thanks. Mr. J. J. Swaffield, nurseryman, occupied the chair.

— PRESENTATION TO MR. A. MCLEOD.—On Tuesday, October 18th, the friends of Mr. Angus McLeod presented him with an address, accompanied with a purse of sovereigns, on his departure from Kells. Mr. McLeod was manager of Headfort Gardens for over six years, during which time the great interest he took in the promotion of Irish horticulture, together with his genial manners, won him many friends. His name figured as a prizetaker at most of the Dublin and at many local shows. Mr. McLeod is at present disengaged, and is succeeded by Mr. Hownslow, Lord Headfort's gardener at Virginia, who now manages both establishments.

— PLANTS AND FLOWERS BY PARCEL POST.—The regulations concerning the sending of plants and flowers, &c., by parcel post now indicate that tin boxes should always be used for Damsons, Bullaces, and Blackberries. Chrysanthemums should invariably be enclosed in a box or basket, as by this means all risk of damage is prevented. Shrubs and dwarf trees should have the roots encased in bass matting, and the branches and twigs tied together with bass or string. Dwarf standard Rose trees should have bands of hay or of bass matting wound round their entire length so as to prevent all risk of injury to the young shoots. Wooden boxes should be used for flowers and soft or tender plants. The address label attached to such parcels should bear the words "by parcel post," "fruit," "plant," &c., as the case may be, or "perishable," and every effort will be made by the authorities to deal with parcels so marked as speedily and carefully as possible.

— AILSA CRAIG ONION.—Replying to "R. M." in the *Journal of Horticulture*, page 329, I think I may safely assert that what Mr. Deverill is trying to obtain is an Ailsa Craig of a handsome globe-shaped form. What labour this means only practical onionists (who, like myself, have spent years of patient experiments) can comprehend; but as "R. M." truly observes, whether as a "globe" or "flat," Ailsa Craig is undoubtedly a magnificent exhibition Onion. What "R. M." and others will have to watch is that he obtains the finest strains only from selected bulbs, otherwise, as in the case of the cheap stocks of Rousham Park Hero (raised by myself), he will find that in years to come the Ailsa Craig will be without any character whatever. Perhaps nothing deteriorates so quickly as an Onion, and the care required to keep a variety up to exhibition excellence was amply illustrated at Deverill's last Onion Show by comparing the Rousham Park Hero Onions there exhibited with the low-priced stocks now so prevalent. I mention this as a comparison, and to show what we may expect Ailsa Craig to ultimately become in the absence of the closest care in selection.—H. WINGROVE, *Rousham Park Gardens*.

— TECHNICAL INSTITUTE, DUNDEE.—The Dundee Horticultural Association, having for its aims the advancement of the science and practice of horticulture, made application in the autumn of last year to participate in any sum set aside from "Residue Grant" by the Town Council for the purposes of technical education. This application was favourably received, and one of the conditions attached to the grant given to the Technical Institute by the Council was the institution of a class in the principles and practice of horticulture for gardeners. A course of about twenty lessons and demonstrations has been arranged. The class will be conducted by Mr. D. Storric, who has been strongly recommended to the Committee as a skilful and enthusiastic botanist and horticulturist. The following subjects will be treated:—Introduction.—The three pathways of knowledge and the three kingdoms of Nature—the mineral, vegetable, and animal kingdoms; their relations and main divisions, with special reference to plants. The Mineral Kingdom, briefly considered in relation to horticulture.—Rocks and their reduction to soils; mechanical and chemical properties of soils; rough methods of soil analysis; improvement of barren and poor soils. The Vegetable Kingdom.—The higher and lower forms of vegetation; the fundamental structure of plants; different plant members (roots, leaves, &c.) and their functions. Plant Growth.—Absorption of food materials; respiration and transpiration; assimilation and increase of size and weight. Plant Reproduction.—Pollination; fertilisation and growth of the embryo; seed—their character and germination; practical management of seeds; propagation and practical management of bulbs,

corms, tubers, and root crowns; spores and viviparous buds. Ferns.—Their reproduction and life history; essential conditions for raising Ferns from spores. Plant Propagation.—Cuttings and layers; budding and grafting. Plant Cultivation.—Essential conditions of temperature and humidity; the effects of light, heat, and cold on plants; the principles of heating by hot water. The practice and principles of pruning. Planting and Transplanting.—Seasons and conditions of the soil; meteorological conditions determining success or failure; care and management of roots. Pot Plants and their Management.—Potting and composts; watering; capillarity and evaporation; airing, shading, and syringing. The Chemistry of the Soil.—Plant foods and plant constituents; manures, their management and applications; theory of rotation of cropping. Garden Pests.—Fungoid and other vegetable pests; insect pests. Botany.—A course of one lecture weekly during the summer term will be given by Professor Geddes. In 1893 the course will deal with "Systematic and Economic Botany and the Geography of Plants." No previous knowledge is required; but the course will cover natural orders of plants not undertaken last year. The class will meet on Tuesdays at eight, beginning Tuesday, 3rd May. Students may attend the botanical excursions. As far as possible, assistance in pursuing botanical studies during the vacation will again be given. Fee, 5s.

— GARDENERS' ASSOCIATION LECTURES.—The remarkable case of plagiarism which Mr. Barron has brought to light in respect of a lecture delivered to a gardeners' association very naturally leads further to the query, How many such cases are in the habit of occurring under the same conditions, in which information taken from books is palmed off as practical knowledge? But I would ask of gardeners' associations whether in obtaining lectures or papers of the description referred to in a fragmentary way they are really performing for their members very much of useful service. A winter course of lectures should, so far as possible, be made exhaustive of some section of horticulture. There should be connection and continuity in what is undertaken, so that at the conclusion of a session it might be said that real educational work has been performed. If the proposed scheme relating to horticultural examinations, now under the consideration of the Council of the Royal Horticultural Society, be finally formulated, and gardeners' associations invited to send members for examination, they will find the greater need for courses of lectures that have definite relation to the subjects found in the examination syllabus.—A. D.

— MONTBRETIA CROCOSMÆFLORA.—In reference to the Rev. C. Wolley Dod's remarks (page 58), as to the hardiness of Montbretias, I may state that with Chancellor Swayne, The Close, Salisbury, the Montbretias are quite hardy. I had my Montbretias from that noted cultivator of hardy perennial and alpine plants last spring, and I believe that these beautiful and highly useful plants will prove hardy in most gardens in this country if they are planted deep enough in light well-drained soil in a dry warm situation, to be out of the reach of frost. In our case the herbaceous borders are raised above the soil surrounding them and slope to the walk, which runs nearly north and south. The soil is a light loam, enriched with leaf soil, short manure, and wood ashes, and from 2 to 3 feet in depth, resting on a gravelly sub-stratum. Still, where there is doubt about the hardiness of this plant in soils and situations less favourable to its perfect safety than those indicated, a few inches thick of sifted coal ashes or leaf mould placed over the roots on the approach of winter would render them quite secure from frost.—H. W. W.

— WOOLTON GARDENERS' MUTUAL IMPROVEMENT SOCIETY.—On Thursday evening the second meeting of this useful Society was held in the Mechanics' Institute. Mr. D. H. Johns occupied the chair, and the following short papers were read—viz., "Helianthus," by Mr. R. Todd, gardener to Holbrook Gaskell, Esq., Woolton Wood; "Violets," by Mr. J. Stoney, gardener to Sir Thos. Earle, Bart., Allerton Tower; "Chrysanthemums," by Mr. T. Carling, gardener to Mrs. Cope, Dove Park, Woolton; "Pyrethrums and Anemones," by Mr. R. G. Waterman; and "Potatoes," by Mr. T. Leadbetter. The papers proved most interesting, as was also the excellent display of flowers and vegetables. Mr. W. Piercy, Forest Hill, London, sent a box of early-flowering Chrysanthemums, for which he received the Society's special thanks, together with a certificate of merit. Certificates were also granted to A. S. Lowndes, Esq. (gardener, Mr. W. Harrison), for Dahlias; to Mr. J. J. Craven, gardener to G. Grant Morris, Esq., Allerton Priory, for hardy flowers; to Mr. J. Stoney for Vegetables; and to Mr. T. Leadbetter for Potatoes, showing good examples of a new Potato named Magpie, also Maincrop, Early Regent, and others. The statement of accounts of the recent

concert given by the Society in aid of the Gardeners' Royal Benevolent and the Gardeners' Orphan Fund showed a balance of £10 8s. 6d., which will be divided between the above charities. A vote of thanks to the Chairman concluded the meeting. The following meetings are to be held during the first half of the session:—November 3rd, "Vegetarianism," by Mr. E. Baillie, Chester; November 17th, "Bouvardias," by Mr. G. Glover, gardener to Sir Andrew B. Walker, Bart., Gateacre Grange; December 1st, "Culture of Stove Flowering Plants," by Mr. B. Cromwell, gardener to T. Sutton Timmis, Cleveley, Allerton. Lectures have also been arranged on "Agricultural Chemistry" by T. Lewis Bailey, Esq., Ph.D.—R. P. R.

A FERTILE BOUGH.

ABOUT ten years ago in an idle moment I inserted on the lowest growth of a *Beurré d'Amanlis* Pear a bud of *Passe Colmar*. It grew freely and soon came into bearing, and has since fruited every year with

owe their sporting nature to a change of soil or situation; but this is not always the case, as I have known a variety to sport in different localities in the same season, and the sports to be identical. Take, for instance, the variety called *Sunrise*, raised five years ago by Mr. J. Baxter of Daldowie, a dark rose coloured self *Viola*. This has to my personal knowledge sported this year in at least three different localities—namely, at *Rothesay*, *Chiswick*, and in my own garden at *Chingford*. In each case the entire plant has sported; the sport is a dark striped flower of great size and substance, but with the defect of *Sunrise*—short footstalks to the blooms. I have called it "*Radiator*," thinking this a suitable name; it is the finest striped *Viola* I have yet seen.

The *Viola* called *Delicata*, a lilac coloured self flower, has also sported at *Chiswick Gardens* into a light striped variety; it sported entirely in every plant. From *Columbine* we have various sports, the best known of which are *York* and *Lancaster* and *Lucy Ashton*. *Ardwell Gem* has perhaps given us the two most popular *Violas* of to-day—namely, *Goldfinch* and the sport from *Goldfinch*, the



FIG. 51.—A GRAFTED PEAR, PASSE COLMAR.

increasing crops. Last year it set its fruit so abundantly that I was obliged to cut off two out of every three Pears. The crop which ripened was prodigious, and the bough required many supports. Two hundred and forty-two Pears were actually gathered after about thirty had fallen off. The fruit ripened perfectly but was small. Unfortunately I did not have it photographed as a curiosity, for such a crop had never been seen by me or my friends before. I anticipated that this excessive fertility would have exhausted the bough, but the result has proved otherwise, for although the crop this year is considerably reduced in number the fruit is much finer. Eighty-six of the *Passe Colmar* Pears were gathered a few days ago, weighing 15 lbs., while the stock tree *Beurré d'Amanlis* has not produced more than half a dozen fruit, it having failed for the first time this year in common with most of my Pear trees to yield a crop. I send you a photograph of the bough. Fig. 51 represents it.—EDMUND TONKS, *Packwood*, October 19, 1892.

VIOLA SPORTS.

FEW growers recognise the fact that many of our finest *Violas* are the result of sports from other varieties, and perhaps a little information on the subject may be interesting. *Violas* sometimes

charming *Duchess of Fife*. The last-named variety is also sporting; I have this season seen two sports from it, almost pure white flowers, one with the markings of *Duchess of Fife*, the other having a dark purple edging, and I think a slight improvement on last-named variety. Once a sport is secured it very rarely reverts to the original variety from which it sported. I have, however, seen in two instances *Goldfinch* sport back to *Ardwell Gem*. When a *Viola* sports in the entire plant there is no difficulty in securing it, but the sport very often shows itself in the blooms on a single stem of a plant, all the remainder of the plant retaining its originality. The various ways of securing a sport are as follows:—Take the stem showing the sportive bloom up with as much root as it has attached to it, and carefully replant it; or cut the stem through, about 2 inches lower than the joint from where the flower stem is, and plant as a cutting. I have secured sports by both methods, but I have occasionally failed.

Young growers like myself have much to learn; but I am very grateful to my old friend Mr. William Dean for information on the securing of sports. In conversation with him lately he quite agreed that there was an uncertainty, although slight, in the securing of sports, and gave me another method by which the sport might be secured—namely, by allowing the sportive bloom to seed and raising seedlings from it. I have not had an opportunity

of testing this method. Violas are more sportive late in the autumn than at any other season of the year.—GEO. MCLEOD, F.R.H.S., *Chingford*.



CHRYSANTHEMUM SHOWS.

WE publish a list of Chrysanthemum Shows to be held during the next few weeks, and shall be glad to receive from readers the notification of any exhibitions that are omitted from the following :—

- Oct. 27th.—Gosport.
- " 28th.—Havant (two days).
- Nov. 1st.—Kent County (Blackheath, two days).
- " " Brixton (two days).
- " " Barnstaple (two days).
- " " Watford (two days).
- " " Ipswich (two days).
- " " Brighton and Hove (two days).
- " 2nd.—Croydon (two days).
- " " Portsmouth (three days).
- " " Ealing (two days).
- " " Evesham.
- " " Ascot (two days).
- " " Isle of Thanet (two days).
- " " Guildford (two days).
- " 3rd.—Wells (Somerset, two days).
- " " Highgate.
- " " Hertford (two days).
- " " Steyning.
- " " Pembroke.
- " " Stroud.
- " " Grimsby (two days).
- " 4th.—Crystal Palace (two days).
- " " Bolton (two days).
- " " Tooting.
- " 5th.—Crewe.
- " 7th.—St. Neots.
- " 8th.—National (Aquarium, three days).
- " " Kingston (two days).
- " " Sevenoaks (two days).
- " " Leeds (two days).
- " " Batley (two days).
- " " South London (Camberwell, two days).
- " " Waterlow (Liverpool, two days).
- " " Truro (two days).
- " " Enfield (two days).
- " " Eastbourne (two days).
- " 9th.—Hornsey (two days).
- " " Birmingham (two days).
- " " South Shields (two days).
- " " Cardiff (two days).
- " " Cirencester (two days).
- " " Bournemouth (two days).
- " " Battersea (two days).
- " " Chelmsford (two days).
- " " Market Harborough (two days).
- " " Bath (two days).
- " " Barnsley (two days).
- " 10th.—Finchley (two days).
- " " Birkenhead and Wirral (two days).
- " " Stirling (two days).
- " " Spalding (two days).
- " " Tiverton (two days).
- " " Winchester (two days).
- " " Westerham.
- " " Chelmsford.
- " " Dawlish.
- " 11th.—Leicester (two days).
- " " Eccles and Patricroft (two days).
- " " Wellingborough (two days).
- " " Dundee.
- " " Sheffield (two days).
- " " Hitchen.
- " " Bradford (two days).
- " " Devon and Exeter.
- " " Derby (two days).
- " 15th.—Plymouth (two days).
- " " Liverpool (two days).
- " " Twickenham (two days).
- " " Hartlepool (two days).
- " " Reading (two days).
- " " Wimbledon (two days).
- " 16th.—Hull (two days).
- " " Bristol (two days).

- Nov. 16th.—Hanley (two days).
- " " Rugby (two days).
- " " Lewes (two days).
- " " Hinckley (two days).
- " " York (two days).
- " 17th.—Edinburgh (three days).
- " " Neath (two days).
- " " Wantage (two days).
- " " Norfolk and Norwich (two days).
- " " Rotherham.
- " 18th.—Stockport (two days).
- " " Chorley (two days).
- " 22nd.—Dalkley.

NATIONAL CHRYSANTHEMUM SOCIETY AND ITS CERTIFICATES.

A CASE has been brought to our notice that astonished us, and we feel bound, both in the best interests of the N.C.S. as well as of exhibitors of new varieties, to place it before the public. This excellent Society has done yeoman's work for the Chrysanthemum, its growers, and exhibitors, and its certificates, which are justly valued by their possessors, also carry the weight to which they are entitled with the public. Varieties that are honoured are much sought for, while those which fail to win the hall-mark of excellence are correspondingly disregarded. It is imperative, therefore, that every member of the Floral Committee of the N.C.S. be not only fully competent as a judge of Chrysanthemums, but he must also be absolutely free from even a suspicion of prejudice. That the members of the Committee as a body are competent no one can doubt, and as a body also they are men of the highest probity; but if there is even one among them who can permit himself to act equivocally the fair fame of the Society is bound to be jeopardised.

A few weeks ago our advice was requested on bringing a new Chrysanthemum before the public, though we are informed it had been previously exhibited. We suggested to the raiser that he should have blooms placed before the Floral Committees of the N.C.S. and R.H.S. for certificates. Several (Beauty of Exmouth and Duchess of Devonshire) were brought to the last Aquarium Show. Mr. Godfrey states that on his boxes being opened one of the members of the Floral Committee of the N.C.S. and an exhibitor of varieties for certificates advised him to put the Duchess under the table, and not to place blooms before the Committee; another member and introducer of new varieties spoke disparagingly of the Beauty of Exmouth, first as being identical with another variety, but "only half the size," then subsequently complaining that "there was too much stuff in it." Mr. Godfrey, however, placed his blooms before the Committee, at which twelve or fourteen members were present, including the two exhibitors referred to. On the motion being put to the meeting that a certificate be granted to the Beauty of Exmouth, one of these exhibitors immediately opposed it as not being distinct, and in consequence only four hands were held up in its favour. Mr. Godfrey on being appealed to defended its distinctness, and a bloom of the variety alleged to be similar was, on the proposition of Mr. Cannell, obtained from the show, and found to be dissimilar and inferior, and Beauty of Exmouth was honoured by eleven votes against two.

Mr. Godfrey next distinctly states, and is prepared to stand by his statement, that after the meeting was over the chief opponent of his blooms said he only acted as he had done because "he had a white of his own that he was very fond of and wished to run," and the Exmouth variety would "cut it out;" then, as Beauty of Exmouth secured the honour, this member of Committee asked Mr. Godfrey "if he would take a good figure for the stock," and on receiving a negative reply, wished to know the "price per hundred" with a view to purchasing plants, on the ground that "such a variety would be sure to sell"—the variety which he had strenuously opposed and nearly succeeded in preventing its obtaining the honour—it clearly deserved and won on its merits.

If the above is a substantially correct statement of the case—and we know that Mr. Godfrey's narrative of what transpired in committee is accurate—a full investigation appears to be called for by the National Chrysanthemum Society if it is to maintain its status as the chief Chrysanthemum authority in this country.

Mr. Godfrey sent his letter for publication, and was particular in requesting that his name should appear with it. We do not publish the letter at present, and make no charges, but state the case fairly and moderately as requiring investigation. With that object, and with the full and frank permission of Mr. Godfrey, we placed a copy of his letter in the hands of the officials of the Society last Monday; and a strong sub-Committee has been appointed, consisting of Messrs. R. Ballantine, Chairman; E. C. Jukes, Vice-Chairman; J. Starling, Treasurer; Harman Payne, Foreign Secretary; and R. Dean, Secretary of the N.C.S., to consider the whole subject. The result of the investigation will, as we earnestly hope, allay prevailing disquietude, and thus increase the influence and prosperity of a Society which has attained a high position in the horticultural world.

THE NATIONAL CHRYSANTHEMUM SOCIETY'S CATALOGUE.

Now that the Chrysanthemum season has commenced, the above useful publication should be in the hands of all growers. It contains complete lists of the various sections, corrected and brought up to date, as well as an alphabetical list of varieties in cultivation, to which reference can be readily made. For the modest sum of 1s. that and the schedule of prizes, which contains some valuable papers read at

conferences, can be obtained from the Secretary, Mr. R. Dean, Ranelagh Road, Ealing.

THE GREAT FLOWER-STAND CONTROVERSY.

I CALLED upon Mr. George Woodgate, the estimable Secretary to the Kingston Chrysanthemum Society, the other day, to learn his views on the subject now exciting the attention of Chrysanthemum growers so largely, that is, the proposed increase in the size of the show stands for Japanese flowers. The Kingston Society is one of not the least important around London, and the views of its chief executive officer, who is also a grower and an exhibitor, merit attention. Mr. Woodgate was present at the meeting reported in your columns last week, but could not remain to learn the final decision. He generally agreed with the purport of Mr. Shea's paper, thought it presented an admirable summary of what was to be said in favour of the change, and also thought that a change being determined upon it would be folly to have other than one of a complete and satisfactory kind. All the same Mr. Woodgate is no special admirer of big blooms, and rather fears that the concession now proposed to be made to big flowers by so materially enlarging the show boards will rather tend to the wider culture of big, and as a rule, coarse bloom varieties rather than those refined and beautiful varieties which, if wanting size, yet have elements of quality which it should be the desire of all to retain. If, said Mr. Woodgate, judges would lay more stress on depth or solidity in Japanese flowers and less on mere size, it would do much to check the present tendency towards favouring the large flowers. Then again, if the boxes are enlarged how will the front row blooms look at 7 inches apart unless they, too, are of the big section? Practically, the proposed enlargement will be putting a premium on size or breadth at the expense of depth, refinement, and beauty. Again, the incurved section we cannot enlarge if we would. There is little probability that of these we shall ever see finer flowers than the Queen and Empress types give now, and these will therefore look more dwarfed than ever when the Japanese boxes are 3 inches wider, and the blooms increase from 5 to 6 inches to 6 to 7 inches in diameter.

So far as Kingston is concerned, this year at least, there will be no change; indeed, the matter of alteration, whatsoever may be done in London, must be left to the exhibitor members of the Society to determine. Any unanimous alteration in the size of the boards so far as the Kingston Society is concerned can only be made by the members in general meeting, and when made they must be embodied in the schedule next year. With respect to the champion cup class, which has always attracted such good competition at Kingston, Mr. Woodgate thinks that it would not be a congruous one to have should it be determined to enlarge the Japanese boards. The class then with twenty-four incurved and twenty-four Japs as it is at present would wear such an irregular aspect that all its present charms would be destroyed. With respect to the taking out of the Jap section all such specially big forms as W. H. Lincoln, Stanstead White, Etoile de Lyon, and some others, and making a class for them, Mr. Woodgate sees no insuperable objection, so that for all ordinary blooms the old boards would still answer fully. He would like to see some check also put upon the methods of setting out the blooms by the aid of wires, as these tend to broaden the base of the blooms, to cure any artificial appearance of breadth, where if the lower petals were allowed to droop as they naturally do, greater depth would be reached and the beauty of the blooms much enhanced.

As to the encroachments made by the new boards on table space, Mr. Woodgate regards it in a more reflective aspect than some others have done. At Kingston they rarely, as it is, have one inch too much, and cannot spare room for more tabling; that is out of the question. It was said at the Aquarium meeting that the additional table room required with the enlarged boxes would not exceed 3 inches per yard, but that is below the mark. It would really be nearer to 5 inches, and on a table 20 yards long that would mean abstracting 100 inches, or nearly 3 yards, a matter of supreme importance. It would seem evident, therefore, to meet such a difficulty that some small classes would have to be cut out of the schedule that this ardent favour shown for big blooms might have full play. It was mentioned at the meeting referred to that in connection with the Rose, for instance—and the Dahlia might have been referred to also—uniformity of staging was invariably found. So also is uniformity in judging, yet here we have judges invited to depart from that unanimity found in judging the flowers named where quality and body have ever found the chief places in favour of size, specially in the Japanese Chrysanthemum. I suggested to Mr. Woodgate that he should get a board made of the new size, place some good blooms in it, and exhibit it at the ensuing Kingston Show. That he will probably do, and thus exhibitors and others will have a good object lesson before them. It would be well if that proposal were generally adopted at Chrysanthemum shows next month.—A. D.

PIERCY'S SEEDLING.

THIS is a most useful early variety, flowers of fair size, colour a good bronze, compact in growth, and very free, and having a good constitution it is certainly worth a place in gardens where early autumn flowers are required in quantity. We have now plenty of bushes of this kind 6 feet in circumference and one mass of flower, and have been for some weeks past, from cuttings inserted last autumn in a cold frame, planted out in early spring in various parts of the garden, stopped once or twice, and then allowed to grow at will. Thus their culture entails but little trouble, and this, added to the other good points of this variety, makes it a valuable acquisition. A great many of the early ones are not definite enough in colour, and this is the only one I could select

from about a dozen bought in some two years ago, that was of any particular merit. Others we grow are Madame Desgranges, G. Wermig, Précocité, and Canary, the last-named much like the preceding, but paler in colour, the blooms somewhat smaller but neater. These grow and flower so freely that one might almost say they are perpetual bloomers, and last a long time in perfection when cut that in places where a large demand exists these are some of the things to grow where you can "cut and come again." With this communication I send you a few sprays of the above.—J. J. C.

[The bunches sent show the floriferousness of Piercy's Seedling, and its bronzy gold colour renders it effective for garden and room decoration.]

CHRYSANTHEMUM MADAME LOUISE LEROY.

IN the hurry after novelties some of the older varieties are apt to be forgotten. The variety under notice cannot be termed old by any means, it being introduced four or five years since; but after the first flourish of trumpets it dropped into the background. I consider it one of the finest white Chrysanthemums in cultivation, either as a large flower or as a bush grown freely without disbudding. It is really a splendid flower, also a capital keeper, the pearly-white petals standing out, but not too formally, and being of this form it is proof against damp. I have flowers now fully developed in the conservatory, and expect them to last in good condition for quite three weeks. It kept good last year for almost a month. This season I have several plants, a group in the conservatory being very effective. The flowers commenced to unfold the last day of September, and now (October 21st) they are almost fully developed, and I expect them to last for another three weeks. What other variety is there so lasting?—A. YOUNG.

CHRYSANTHEMUMS IN NORFOLK.

UP to the present time I have had only one opportunity afforded me of inspecting a really first-class collection in this county, although there are numerous good cultivators in Norfolk. I do not, however, expect to find better flowers than those I saw on Thursday last at Sennowe Hall, the residence of B. Le Neve Foster, Esq. Mr. W. G. Gilbert, the gardener, is well known to Chrysanthemum men as a prominent and successful exhibitor, and judging by the present appearance of his plants and flowers he will be even still better known at the close of the present season's campaign. A large light airy Peach house is filled with splendid Japanese, and what strikes one most on entering is the uniform dwarf habit of the plants, coupled with stout stems and large robust foliage. The average height of the plants will, I believe, scarcely exceed 4 feet. Most of the best new varieties are represented. Especially good is W. Tricker, broad florets, deep flowers, highly finished. Gloire de Rocher is also grand on many plants, better than I have before seen it. The same may be said of Kioto, Louis Boehler, Pelican, Stanstead White, Vivian Morel, Avalanche, Eynsford White, and Etoile de Lyon, these opening splendid flowers.

I was not a little surprised to see that Mr. Wells, of Earlswood Nurseries, Redhill, is not the sole possessor of the white sport from Vivian Morel. Mr. Gilbert has a plant carrying two flowers, one of which is a large white bloom slightly tinged pink, but promising to be pure white when fully expanded; the other is of the normal type and colour. Thus the truth of the assertion that when a sport from a well-known variety is announced we expect to hear of its having appeared simultaneously in one or more other places is again about to be demonstrated. Mr. Gilbert's flower will, I believe, be seen at the Aquarium Show.

He has also two very fine seedling Japanese. One is a large deep creamy-white flower, having the build of Belle Paule, with, like it, long curly florets, falling downwards; the florets broad and stout, in every way a fine exhibition flower, is named Mrs. Le Neve Foster. The other is an incurved Jap., somewhat resembling Mons. Freeman in form; colour deep old gold, with a silvery turnover. Another house contains a batch of incurved varieties, not yet far advanced, but opening very fine buds. Mrs. Robinson King is in good condition, opening fine flowers.—W. K. WOODCOCK.

FINSBURY PARK.

FOR years past the Chrysanthemums at Finsbury Park have been so good that an excellent display is now annually looked for by those interested in the matter. This season is no exception to the rule. The plants possess a remarkably dwarf sturdy habit and dark green foliage, which, as everyone knows, are indications of good blooms. Owing to securing the buds early this season Mr. Melville, the Superintendent, assisted by his lieutenant, Mr. Batchelor, has managed to be the first in the field so far as the metropolitan parks are concerned. The plants are arranged in a large span-roofed house near the Manor House entrance to the Park, and have been on view since October 1st. Many of the early flowering varieties are past their best, but there are numerous Japanese sorts just now in the zenith of their beauty, whilst the incurves will be fully a week or ten days before the blooms are properly expanded.

About two dozen of the newer varieties are grown, but in order to ensure a good display many of the old standard sorts are given a prominent place, and we think wisely. Elaine has been exceedingly fine, though now past its best, there being many sturdy plants carrying splendid flowers. Avalanche, too, is superb, and the same may be said of Edwin Molyneux. The popular Middle Lacroix has contributed largely to the display, as likewise has the old Peter the Great, still one

of the best yellows in cultivation for decorative purposes. Edouard Audiguier is grand, the blooms being large, of good substance, and richly coloured. Etoile de Lyon attracts attention with its massive blooms, as also does Condor, the flowers of the latter being very fine.

Among other varieties Mons. R. Bahuant is excellent, the flowers showing great depth and width, as also are Vivian Morel, Amos Perry, Louis Boehmer, Mr. Charles E. Shea, and Bouquet de Dame.

As already mentioned, the majority of the incurved varieties were not open at the time of our visit, but were looking remarkably well. Lord Alcester had developed several excellent blooms, as also had the well known varieties Golden George Glenny and Prince of Wales.

CHRYSANTHEMUMS AT CASTLE HUNTLY.

The residence of Mrs. Armistead in Perthshire has for the past six years been celebrated for Chrysanthemums. Mr. Beisant, the gardener, is well known as an enthusiastic grower, and also an enterprising and successful competitor; and, judging from the appearance of his 500 plants which I had the pleasure of seeing the other day, we are likely to see and hear more of him this season than hitherto. The majority of his plants are of medium height, and carry three blooms each. The shoots are thoroughly ripened and very brown, with strong thick leathery leaves. The plants are arranged in light, airy, span-roofed houses, with most of the buds within a foot of the glass. The majority of the Japs were showing colour, and what grand buds! Mr. Beisant finds them a fortnight later this season, and is now assisting them with fire heat. Amongst new varieties, Edwin Beckett, Mrs. E. Beckett, and W. K. Woodcock were extra fine. The most promising Japs in the general collection were Florence Davies (grand), Vivian Morel, Louis Boehmer, Cesare Costa, Sunflower, W. W. Coles, Edwin Molyneux, Etoile de Lyon, and Stanstead White. Bouquet des Dames, W. H. Lincoln, and Madame Louise Leroy were fully developed and most magnificent blooms; the latter is a great favourite at Castle Huntly.—VISITOR.

CHRYSANTHEMUMS AROUND LIVERPOOL.

MR. CARLING of Dove Park, Woolton, has some very promising plants both in the older and newer varieties. All the types of the Queen and Princess family look capable of producing fine flowers. In the newer varieties one which stood out more prominently than the rest was Felix Cassagneau. Although a weak plant the flowers were very fine, reminding one of Criterion in shape, but with a colour many shades deeper. W. Tricker, Madame Mezard, Mr. and Mrs. Beckett, Beauty of Castle Hill, Beauty of Castlewood, W. K. Woodcock, Mrs. Libbie Allen, Lilian B. Bird, Florence Davis, A. H. Neve, May Tomlin, and Ami Hoste should all turn out well. A variety named Mohawk was conspicuous by its fine shapely buds and dwarf habit. Very good, too, were Sarah Owen, Madame J. Laing, Sunflower, Boule d'Or, and Val d'Andorre. About 100 seedlings in 6-inch pots are being tried. Several of these looked well as regards habit and buds.

HIGHFIELD, WOOLTON.

Mr. Haigh does not exhibit, but as he grows 600 plants of the most sterling varieties in excellent style he is deserving of a short note. The plants, which are well arranged in the large plant house and in the Peach houses, are remarkable for their dwarf habit and excellent foliage. The Queens and Princess family are well ripened, sturdy, and just right for producing clean and good shaped flowers. Felix Cassagneau was here very fine, as also were Bouquet de Dame, Gloire du Rocher, Vivian Morel, Lilian B. Bird, W. K. Woodcock, and Mr. and Mrs. Beckett; whilst Richard Parker (grafted) had shapely buds just showing colour. A feature which might oftener be imitated, and especially by those having a large amount of decorative work to do, was a stage filled with plants from 15 to 18 inches high in 6-inch pots, and carrying just one flower.

CAMP HILL, WOOLTON.

Perhaps on no former occasion has Mr. Jellicoe had such a promise of fine flowers as the present. That he will be hard to beat no one having seen the plants can for a moment doubt, and whoever does it will have a tedious task to perform. In all the 800 plants grown it would be difficult to find a poor one. True some are rather early, but there are plenty to fall back upon. The Queen family are superb, and so are Princess and its sports. Stanstead White, Florence Davis, Mrs. Falconer Jamson, Miss Anna Hartzhorn, and Puritan I singled out as deserving special mention by reason of their extra quality. Mr. J. Stanborough Dibber, Mdllc. Marie Hoste, Louis Boehmer, Sunflower, Volunteer, and M. R. Bahuant were grand. Madame Darrier (incurved) ought to prove good, as no doubt will H. Ballantine, one of the hairy types, Mr. Jellicoe had some beautiful blooms of Mrs. Alpheus Hardy.

ALLERTON HOUSE, ALLERTON.

Here Mr. George Eaton has 300 well grown plants. He is particularly strong in the Japanese, having Sunflower, Boule d'Or, Etoile de Lyon, Stanstead White, W. H. Lincoln, Florence Davis, Gloire du Rocher, Mdllc. Marie Hoste, W. W. Coles, Mr. and Mrs. Beckett, and Alberic Lunden all very fine in bud. The Princess type are all good; Queens rather late but promising. Robert Cannell and Mons. R. Bahuant very good. His reflexed varieties are all represented by sturdy plants.

HILLSIDE, ALLERTON.

Another exhibitor who came out with a fair share of success at Liverpool last year was Mr. Healey. He has been persevering, and this

year his plants are looking very well. Princess of Wales, Mrs. Heale, and Mrs. S. Coleman are the best of that section. The Queen types are good, and Mons. R. Bahuant is very fine. The best amongst the Japanese are Condor, Stanstead White, Criterion, Etoile de Lyon, W. W. Coles, Mdllc. Marie Hoste, Vivian Morel, and Florence Davis.

CROFTON, AIGBURTH.

There are 400 plants grown here, and Mr. Donald Forbes ought to feel proud of them. In the Japanese, Mrs. E. W. Clarke, Boule d'Or, W. W. Coles, Florence Davis, and Stanstead White are very promising, whilst Mdllc. Marie Hoste and Mr. Edwin Beckett are the best I have seen as yet. Nearly all the newer Japanese are being tried. The following were all showing remarkably well: G. C. Schwabe, F. W. Flight, Holborn Dragon, J. D. Salter, W. K. Woodcock, Coronet (excellent), W. Tricker, Gaetano Guelfi, a creamy white variety with spreading petals; Anatoli Cordonnia, a large white variety with broad straight petals, a very large flower; Madeline Davis, a beautiful incurved Japanese; Comte de Laurane, a variety of a lovely pink shade; Mr. G. Herring and La Verseaux. The Queen family was fine, as were the Princess, the latter a little later. Rt. Cannell, Mrs. Robinson King, Miss Bella Wilson, Miss B. V. Robinson, Mons. R. Bahuant, all showing very good buds. Fred Hart, a new reflexed, was very fine.

LINGDALE LODGE, OXTON.

As a most successful exhibitor, Mr. George Burden needs very little introduction. This year the incurved are very promising, the following being especially fine: The Queen family, Princess of Wales and their sport Prince Alfred, Lord Wolseley, Jeanne d'Arc, John Salter, Princess Beatrice and its sport Jardin des Plantes, and Mr. Bunn. Of newer ones, Mons. R. Bahuant is very good, whilst Robert Cannell and Mrs. Clibran are looking well. In Japanese, Vivian Morel, Stanstead White and Surprise, W. H. Lincoln, Sunflower, Etoile de Lyon, Mrs. F. Jameson, Florence Davis, Edwin Molyneux, and Bouquet de Dame of the older ones, and Elliott F. Shepherd, Mr. and Mrs. Beckett, and W. K. Woodcock of the newer varieties, are the most promising.

MOSSLEY HOUSE, MOSSLEY HILL.

Judging from present appearances the splendid collection of 350 plants grown here by Mr. D. Heany must, as regards excellence of quality, run those of Mr. Jellicoe very closely. For the number it would be difficult to see them surpassed, and Mr. Heany is almost certain to be heard of in the course of the next few weeks. The Queen and Princess families are grand, and here I saw Richard Parker most promising. Mons. R. Bahuant was enormous on some early buds, but there are more in reserve in a later stage. John Salter, Ami Hoste, Mrs. Clibran, Robert Cannell, and Mrs. F. Mistrell and Camille Flammarion are certain to produce excellent blooms. In the older Japanese Stanstead White, Avalanche, Etoile de Lyon, Boule d'Or, W. W. Coles, E. Molyneux, Condor, Madame Laing, Sarah Owen, Mrs. Falconer Jameson, and Bouquet de Dame are all good. The newer ones very promising are Elliott F. Shepherd, Violet Rose, Vivian Morel, Lilian B. Bird, A. H. Neve, R. C. Kingston, F. Clinton, Felix Cassagneau, Gaetano Guelfi, W. H. Lincoln, W. Tricker, Mrs. Irving Clarke, Louis Boehmer, Mrs. A. Waterer, and Miss Anna Hartzhorn.

Damping has been very prevalent amongst the earlier blooms; this is being guarded against by placing tiffany, which covers the roofs of the houses. The plants throughout are all free from mildew, and look very well.—R. P. R.

VINES AND VINE CULTURE—AN APOLOGY.

WE have received the following communications, which are creditable to both parties. Mr. McCormick, we have reason to believe, is a competent grower of Grapes, and was not aware of the nature of his transgression. Had he acknowledged the source of the matter that he appropriated Mr. Barron would not have made the complaint, for which he had such abundant justification:—

TO MR. A. F. BARRON.—Dear Sir,—I regret very much that the essay referred to on page 349 of the *Journal of Horticulture* should have given offence to anyone. I assure you, however, that the portions you complain of as being bodily taken from your work describe what I have carried out in practice during the last ten years, and I used your work simply to enable me to bring it out in a more concise form than I might otherwise have done. During the last twenty years I have taken a keen interest in everything appertaining to the Vine, and after comparing notes taken during that time with your work, which I assure you I very much value, I found it impossible for me to get away from the plain facts there recorded. Had it occurred to me that I was committing an error I should certainly have consulted you before I submitted the essay either to the Society or any other place.—I, am, dear Sir, yours very truly, JAMES MCCORMICK.

I accept the foregoing apology from Mr. McCormick as suitable and satisfactory, and beg to express my sincere regret that it should have been necessary to draw attention to anything of the sort. I am gratified by the notice "Vines and Vine Culture" receives from the gardening community, whilst anxious to secure the full credit for my work, which is my chief reward.—A. F. BARRON.

HARDY FLOWER NOTES.

EVEN now the darkness of the night swiftly enroaches upon the brightness of the day the garden withholds not its reward from the wooer of its favours—from him who, through sunshine and storm, cherishes his flowers, courting their favour by all the little arts his knowledge of which has made him master. The gay Sunflowers, the bright Rudbeckia speciosa with its deep yellow flowers relieved by their jetty central cones, and the Heleniums are in vivid contrast to the more sober hues of the Michaelmas Daisies, which range from white to deepest purple. The massive Tritomas, pride of the autumn garden, withhold not their lively colour from the view, while humbler but not less beautiful plants attract the many who seek a lowlier type of beauty. There are few things more delightful to the lover of the modest beauty of our alpine plants than the Saxifrages, which are now of the brightest or deepest green or of the finest grey, as their nature may be.

CALCEOLARIA PINNATA.

Very bright also, and attracting much attention from the many who have never seen it before, has been that pretty *Calceolaria pinnata*, the Pinnate or Wing-leaved Slipperwort, a native of Peru, and introduced in 1773. Although only an annual it is a perfectly hardy one, and sows itself freely; indeed, once fairly introduced no garden need ever be without it. I picked up a plant some years ago in a garden where it had been for a considerable time and as it was late in the season, potted it and placed it in my greenhouse. Here it seeded freely, and its progeny with their descendants have never left the greenhouse without a considerable number of representatives of the race. In spring some young plants were hardened off and planted out, and now there is stock enough outside. It is growing best in a half-shaded position in peaty soil.

Although the normal height of *C. pinnata* is only said to be about 9 inches I have it from 12 up to 26 inches in height, the bright yellow small and pretty flowers ranging from about half-inch to five-eighths inch in diameter. The foliage is deep green, thickish and pinnate in character. Is there not here a plant for the energies of the florist, who might by its means supplant the bedding *Calceolaria* of the day by a hardy annual?

SWEET PEAS.

We, who admire our perennial flowers, must beware lest we should despise the annuals which, in many cases, are of the utmost value in the hardy flower garden. What, for instance, could we do without the Sweet Peas, although we have a considerable number of perennial *Lathyruses* in cultivation? These Sweet Peas, which as Keats says are—

" . . . on tiptoe for a flight :
With wings of gentle flush o'er delicate white,
And taper fingers catching at all things,
To bind them all about with tiny rings."

may be over for the season, but they have done yeoman service when cut flowers are required, sparing often those needed to brighten the borders.

Of the new varieties raised by Mr. Eckford, Mr. Laxton, and others, it is impossible to speak too highly, and the lover of flowers cannot but feel deeply how much we are indebted to those florists for so enriching our gardens.

The annual Cornflowers, too, how useful they are! and I am sorry I cannot congratulate the raisers of the new double varieties upon the results of their labour. A greater variety of colours and markings has undoubtedly been secured, but this has been achieved at the expense of the grace and lightness of form of the older Cornflowers. None of these newer sorts can compare in value with the old blue or with one or two of the whites. There are some plants among the perennial *Centaureas* well worthy of notice, and I had intended noticing some of these, but, like the autumn Crocuses, this notice must be withheld for a time.—S. ARNOTT.

ANOMATHECA CRUENTA.

THIS plant is widely known and of easy culture. It is quite hardy in the south of England, and it will even survive ordinary winters some distance north if a sheltered position be chosen or protection be afforded when necessary. The plant is not very particular as to the kind of soil, though it should be preferably light, and in all cases well drained.

Some practise lifting and storing the bulbs in late autumn, and if the situation is very wet this is judicious and prevents some losses; otherwise, especially in warm localities, it is unnecessary. Still, some should be grown in pots, as very attractive and useful specimens for a cool house can be obtained with little trouble. Light turfy loam and peat, with a good proportion of sand, will suit them well under such conditions; and as growth is advancing an occasional supply of weak liquid manure will be advantageous, improving the flowers both in size and colour.

One bulb in a small pot, or several in a large one, according to the size, will be needed; and as the plants are rather tall in growth, reaching and even sometimes exceeding 2 feet in height, a light stake may be employed to keep the stems in position. This, too, is

generally needed in the open border, as they are very liable to be broken by wind or beaten down by rain if some similar precaution is not taken. In planting it is well to avoid placing the bulbs too deep, as that is likely to result in weak and imperfect growth. Three or four inches beneath the surface of the soil will be quite sufficient.

The plant is of slender and graceful habit; the leaves are about half an inch broad, tapering somewhat like *Ixias* and other similar plants. The flowers have each a long tube and six elliptical divisions, bright red in colour, with a tinge of scarlet; the three lower divisions are broader than the others, and have a dark blotch at the base. Though individually they do not last long, the scapes are produced in constant



FIG. 52.—ANOMATHECA CRUENTA.

succession during the greater part of summer, and even as late as September.

The accompanying woodcut (fig. 52) is a representation of this pretty bulbous plant.

IMPROVING SANDY SOILS.

GOOD loams are without doubt the best for all purposes, being intermediate between clays and sand. Soils that contain 30 to 50 per cent. of clay and 50 to 70 per cent. of sand should, if well drained, be moderately dry and warm, fairly easy to work, productive, and maintain under good culture their fertility. The position and locality being suitable, very often the soil is blamed for failures when the position of the land and the locality in which it is situated are unfavourable to the growth of particular plants or crops. We are not, however, dealing with the geological or geographical distribution of soils, but their improvement. When we have soils that contain 10 to 20 per cent. of clay and 80 to 90 per cent. of sand, considerable care in management is needed if fairly good crops are to result. This can only be accomplished by a thorough improvement of the soil, so that its fertility is increased, and this in many cases is not the work of a solitary season, often taking years to accomplish. Whether rapid improvements can be made at a trifling cost depends largely upon the materials necessary, whether they are close to hand for the purpose or the reverse. The absorbing power of the soil must first be increased, for it should be remembered that sand

possess the power of absorbing moisture from the atmosphere in a very small degree; for instance, "1000 lbs. of sand exposed twelve hours at night absorbed only 1½ lb. of water, while the same quantity of loam absorbed 20 lbs." This is not all, for the rains that fall upon such soils are not retained for any length of time to be a permanent benefit to the plants or crop, as they pass away beyond the reach of the roots too rapidly. The importance of increasing the absorbing power of these soils is therefore apparent.

Soils of the nature we are considering have little or no power of holding or fixing the fertilising ingredients of manure. This difficulty is overcome just in proportion as the absorbing power of the soil is increased. It is unnecessary to turn up these soils to the action of the weather because they do not need exposure to break them up and render them lighter and easier to work in spring. I do not advise turning them up for the winter until they have been materially improved and the absorbing power of the soil increased. Mineral matters may be acted upon by the weather and rendered soluble, only to be carried away by heavy rains, which, instead of adding to the fertility, certainly decreases it.

Sandy soils are quickly improved in both their chemical as well as their mechanical properties if good dressings of clay or marl can be spread upon the surface during the autumn and winter. These, when acted upon by rain, frost, and thaws, crumble to a fine powder, and quickly improve the texture of the soil. If clay is to be thoroughly incorporated with the sand it must be reduced to a powder. Where abundance of clay is handy, 100 cartloads per acre would be none too much, and this quantity would change in a solitary season the character of the soil. If fruit trees are to succeed on sandy soils, at least 1 inch depth of clay should be exposed on the stations where the trees are to be planted, the intermediate spaces can be improved at a more gradual rate. Again, if sandy soils require lime, a liberal dressing of clay or marl is of more value than a good dressing of manure. We certainly prefer the clay on these soils in preference to manure, and should only supply just what was really necessary of the latter for the production of a crop. There can be no doubt that when good marl is obtainable, and it contains say, 10 per cent. of lime, it is the best and safest method of adding lime to the soil. Marls, as a rule, contain some silica in a soluble form and phosphoric acid. When these are present the value of a dressing is certainly increased.

Clays and marls are not, however, within the reach of all who have to deal with sandy soils, therefore other measures must be adopted. In gardens of any pretensions where light soils have to be dealt with, the work of improvement can be rapid, because large heaps of vegetable refuse can be collected annually. The roots and stems of various plants, fallen leaves, the mowings of lawns, the edgings of walks, refuse from the potting shed, the surface material removed from Vine and other borders mixed together, soon form a large and valuable heap for the improvement of sandy soils. Many are very limited in this respect, and have to fall back on more natural means for changing the character of these soils. It is wonderful even under these conditions how quickly this can be accomplished, and fairly good crops produced. But to effect a thorough change it is the work of perseverance for years. Under these circumstances the only means to follow is to turn in every scrap of vegetable refuse that comes to hand, even the stems of Cabbage and Potato haulms.

In addition to this, some quick-growing plant must be sown at once after a crop has been removed. Nothing is better than White Mustard. Turnips, Spinach, and Rape may be also employed. The first is the best, because it grows rapidly, and not only yields abundance of material for turning in, but once sown will grow without attention, and will smother all weeds. To sow Mustard thickly and keep it from seeding is a method that cannot well be ignored for cleaning a piece of foul land. Very often two crops of Mustard can be obtained for turning in on the same piece of ground where early crops have been grown. On land from which Potatoes are lifted during the close of August and early part of September a crop of Mustard a foot or more in height can readily be produced. We have sown as late as the end of the month even in the north, and had a capital crop for turning in. If a crop has been grown strong and attained several feet in height, to prevent it seeding it can be chopped down and allowed to lie on the surface to decay until it can be dug in. Where only one crop is to be obtained it is better left on the surface than dug in too early. If manure is plentiful we should certainly manure freely even for Mustard, using the manure in a state that will afterwards be advised for light soils. The manurial ingredients would quickly be absorbed by the Mustard, and stored up in its roots and stems to be rendered available the following season for the crop that occupies the ground. No loss would take place by this method of procedure; on the contrary, the land would eventually gain considerably. Plant food that might, through the soil being idle for a few months, be washed away would be stored up by this "catch crop," if we may use the term, for the succeeding one. Green crops that are sown early for digging in should, so far as practicable where early and moderately early cropping is needed the following season, be turned under before the winter. Decomposition is slow when the soil is of a low temperature.

If the crop, whatever it may be, is to utilise the plant food placed in the soil in the form of manure it should be in the opposite condition to that applied to heavy clay soils. It ought to be thoroughly fermented (decomposed) before it is applied. Care must also be taken not to apply the manure before it is time to sow the seeds or plant the crop. If the manure is applied some time before the ground is cropped, the

same as would be perfectly safe on loams, the ready available plant food of the manure—such as the soluble salts of potash, soda, nitrogen, phosphoric acid, &c.—may be carried away by heavy rains altogether, or at least below the reach of the roots of the crop grown. No doubt considerable loss takes place under any circumstances—that cannot well be avoided, but by care this loss can be minimised as much as possible. We have reaped the best of results when the manure has been applied at the same time as the crop, the ground having been previously dug and the manure merely forked into the surface.

Sandy soils are less expensive to work than heavy almost unworkable clays are easier to improve. In the one case material is needed to lighten it, and in the other the reverse. Material is required to increase the adhesive properties of sands, so as to give them the power of holding and fixing plant food, instead of allowing it to be washed away or escape in the form of gases.—WM. BARDNEY.

ANTI-BLIGHT AND THE POTATO DISEASE.

THE following report of some experiments with Messrs. Tait and Buchanan's Anti-Blight powder has been sent to us for publication:—The Land Commission in Ireland last year made experiments with this powder, but with small success, as the proper implement for distributing it was not forthcoming at the time, and only hand-puffers could be used, entailing much labour and waste. Mr. W. A. Barnes, Westland, Kells, made a favourable report showing that two dressings of the powder gave an increase of sound tubers 31 per cent. over the undressed, while that which had received one dressing after the appearance of the disease gave an increase of 9½ per cent. Other experimenters found that they could not apply the powder properly with the machines supplied, and turned their attention to the *Boullie Bourdelaise*, distributed by the "Eclair" sprayer, but from the report of the Irish Land Commission there was no satisfactory evidence of a cure by this treatment. The same report states that the powder would probably produce the best results if applied two or three times in small quantities. This can be done by the use of the Torpille knapsack, carrying enough of the powder to dress two acres (24 lbs). During the present season some fresh experiments are being made with the powder, of which as yet only two reports are to hand. One is from the Home Farm, Carlung, West Kilbride, where two roods were experimented on, the Potato planted being a fine variety of Maincrop from the Lothians. One rood dressed with Anti-Blight by the Torpille on three several occasions (June 9th, July 1st, and July 25th), dug on 13th October, yielded:—

Dressed.				Undressed.			
Tons. cwt. qr.				Tons. cwt. qr.			
2	6	2	good	2	4	3	good
0	2	0	small	0	2	0	small
2	8	2		2	6	3	
Produce per acre, 9 tons 14 cwt.				9 tons 7 cwt.			

Gain per acre, 7 cwt.; value, 21s. Cost of Anti-Blight used in three dressings:—

	s.	d.
9 lbs. to 1 rood (=36 lbs. per acre), value	...	7 9
Labour for 1 acre (3 days, 1s. per day)	3 0
		10 9

(N.B.—The time taken to dress 1 rood not more than 2½ hours, and easily done by a young boy or girl). The above half-acre showed no disease to speak of. A blighting wind about the end of July killed down the haulms completely, after which there was no growth; otherwise a fourth and even a fifth dressing would have been given had disease shown itself. The other report is from a cottage garden at Fairlie, where ½ pole was dressed three times by a Malbec bellows, during June and July, dug 14th October, yielded:—

	Tons. cwt. qr. lb.			
63½ lbs. good, sound tubers—average per acre ...	9	1	1	20
9 lbs. small and diseased tubers—average per acre ...	1	5	2	24
	10	7	0	16

Percentage diseased, 12.41.

This ground has always been much infested by disease, but another patch of same variety thought to be more favourably situated, was left undressed, and yielded:—

	Tons. cwt. qr. lb.			
25 lbs. good, sound tubers—average per acre ...	2	10	0	0
50 lbs. diseased, bad tubers—average per acre	7	2	3	12
	9	12	3	12

Percentage diseased, 66.5.

The same blighting wind as described in the previous experiment stripped the leaves and withered the haulms of all the Potatoes around the place, and Potatoes on all sides have been much diseased. We have just seen results of a trial of the powder carried out by Mr. John Speir,

Newton Farm, on a portion of a field of Myatt's Kidneys. Some shaws lifted from three different parts of the dressed portion of the field showed 11.23 per cent. diseased. Other shaws lifted from three different parts of the undressed portion of the field showed 19.04 per cent. diseased. Mr. Speir calculates the labour and powder used in the repeated application as 10s. 6d. or less per acre.

ROYAL HORTICULTURAL SOCIETY.

OCTOBER 18TH.

SCIENTIFIC COMMITTEE.—Present: Dr. M. T. Masters (in the chair). Mr. Morris, Mr. Blandford, Prof. Church, Dr. Scott, Rev. W. Wilks, Dr. Müller, Dr. Russell, Rev. G. Henslow, Hon. Sec.; and Mr. J. Carruthers, visitor.

Bouillie bordelaise.—A communication was received by Mr. Blandford from Mr. E. D. Till, The Priory, Eynsford, Kent, stating that of twenty-six experiments in gardens, fields, and allotments, on different sorts of Potatoes this season, they were all completely successful. The mixture used consisted of 1 lb. of copper sulphate, 1 lb. of freshly slaked lime, 1 lb. of syrup, and 5 gallons of water. The following are some of the more striking results selected from Mr. Till's report: "Early Puritan," once, twice and thrice syringed respectively, all were good; the haulm being green four weeks after the others had decayed. When not syringed 25 per cent. were bad. 'Wilford Park,' considered a good disease resister; of seven rows not syringed 5 per cent. only were bad. Of a row twice syringed all were good, cleaner, and of a more regular size than the others. Of 'Sutton's Abundance,' 20 to 25 per cent., 'Victory,' 20 per cent., and 'Chancellor,' 3 per cent., were bad when not syringed. 'Reading Giant,' when twice syringed, were all good, with more than a fourth excess of crop; all being cleaner and of a more regular size than in the rest of the field, where it gave an average crop. The haulm was green to September 25th, six weeks after the others had decayed. Of seven varieties grown on allotments, of 'Snowdrop' twice syringed, all were good; once syringed, eight tubers, bad; not syringed, sixteen bad. Of 'Early Puritan,' twice syringed, twenty-five tubers bad; about sixty being bad on two adjacent rows not syringed. In a garden, 'Beauty of Hebron,' once syringed, all were good and very clean; while of two rows not syringed 30 per cent. were bad." Mr. Till concludes his report with the following general remarks:—"The leaves were very thoroughly syringed on both surfaces, and at a date (July 1st, 15th, or 20th to 23rd) when growth had nearly attained its full development. The quantity applied at the rate of about 350 gallons per acre. The most striking results were on the early sorts. The later sorts were freer from the disease. The 'Reading Giant' plot showed a largely increased quantity in comparison with the adjoining rows, while the superior size, regularity, and quality were very marked. Also the 'Ware,' or selling sizes, were very much more regular. This was no doubt due to the haulm being kept in vigour for five to six weeks after the rest of the haulm in the field had withered. There is no mistake about the great advantage of the solution when applied to this variety; improved growth was not so marked in other sorts, though certainly very noticeable generally." Prof. Church remarked that the use of the syrup was to make the hydrated oxide of copper more adhesive to the leaves, and he observed that dextrine had been used in conjunction with sulphuretted mixtures for Roses and Chrysanthemums; but the special value of sugar was that it entered into combination with the lime, and was subsequently set free, retaining all its adhesive properties. Mr. Blandford added that the use of sugar had been adopted as the best result from a large series of experiments carried out in France.

Docks Attacked by Grubs.—Dr. Masters received a communication from Perthshire together with specimens of grubs which had attacked some Docks. As *Rhubarb* was about to be placed on the same ground, being of the same family (*Polygonaceæ*), it was thought the latter might be attacked also. It proved to be the "Ghost Swift," *Hepialus humuli*; but, as Mr. Blandford observed, this insect is so very generally distributed that no remedy could be suggested other than the destroying the plants with the grubs as much as possible.

Walnuts Imperfect.—Mr. Noble sent specimens of Walnuts, in which the shell was imperfectly developed in certain places, though the kernels appeared to be sound. It was suggested that the cause might be defective root action from a clay soil, or perhaps the sharp frost in June when they were very young.

Fog Report.—Some discussion arose as to the desirability of recommending observations on the injuries to plants by fog during the coming winter and pursuing them in a systematic way. It is proposed, therefore, to reconsider the programme drawn up in 1891 at the next meeting of the Scientific Committee, especially in its bearings on the best practical methods of resisting the injuries of fogs in the construction or adaptation of plant houses or otherwise.

Peat-wood.—Dr. Russell showed some specimens of wood from a peat bed of a few feet in thickness on Dartmoor, in Devonshire, where there are no trees at the present time. One was that of Birch, but the other was not recognisable on inspection. It was referred to Kew for comparison with some museum specimens.

Fasciate Holly.—Mr. G. Paul sent boughs of *Ilex Donningtonensis* with this peculiarity. It appears to be a variety particularly liable to fasciation. The cause of fasciation is still unknown among trees. It is particularly common in the Ash and Cotoneaster.

Cunonia capensis.—Flowering sprays of this shrub were sent by

Mr. Burbidge. He observes that it is an old plant, but not often to be seen in gardens at the present time.

Pelargonium Sport.—A new double variety was received from Mr. Cannell called 'Double New Life,' having the peculiarity of the petals being white, red, and flaked in the same blossom. It originated from a double *Vesuvius* called 'Wonderful.' A flaked variety of the single *Vesuvius* appeared in the Isle of Wight in 1888. It has also sported to a salmon colour, as well as white, several times. The leaves are peculiar in having acquired almost a purple tint. The original *Vesuvius* was raised by Messrs. A. & F. Smith of Dulwich in 1868.

Egyptian Figs.—Mr. Henslow exhibited an instrument used in Egypt for cutting off the tops of the nearly ripe fruit of the *Sycamore Fig*. It consists of a circular strip of iron, one edge being sharpened, and inserted like a loop at the end of a stick. The object is to allow the insects to escape (*Sycophaga crassipes*, *Westw.*), which always infest that species. The *Sycamore* is never propagated by seeds in Egypt. The custom is apparently very ancient, and the Hebrew word translated "cultivator" as applied to the prophet Amos (ch. vii., 14) really signifies "scraper," as correctly given in the Septuagint version (written at Alexandria). It is described by Theophrastus and Pliny, but no mention is made of the insects. As the fruit becomes sweeter it was thought to ripen them.



FRUIT FORCING.

Figs.—*Early Forced Trees in Pots*.—Trees that are to be started gently about the middle of November to afford a supply of ripe fruit at the close of April or early in May will now need to have the wood brushed over, using softsoap, 4 ozs. dissolved in a gallon of boiling water, and when cooled to 120° apply with a brush, reaching well into every angle, so as to dislodge any scale or hibernating red spider. Very little pruning will be required if the trees have been carefully and regularly pinched during the growing season, but if the growths are irregular or too crowded they must be shortened and thinned to render the trees symmetrical and fruitful. Wash the woodwork and walls with scalding water after clearing out every particle of the fermenting material or beds. Limewash the walls, adding a handful of flowers of sulphur to each pailful of limewash. Then dress the trees with a mixture of softsoap and sulphur, 4 ozs. of softsoap to a gallon of boiling water, adding enough sulphur to form a cream, using a brush and reaching every part, being careful not to rub off the embryonic Figs, nor to injure the shoots, as those of the current year are very brittle. A mild bottom heat is almost a necessity to a successful swelling and ripening of the earliest crop; but the pots, unless small, must not be plunged in the fermenting beds, or they will sink with it and be subjected to checks in raising the fermenting material. Provide, therefore, pedestals of loose bricks on which to stand the pots, so that their rims will be a little higher than the pit edge, and the pit can then be filled with Oak or Beech leaves pressed down firmly. If the pit is not more than 3 feet deep, a third of stable litter may be added, and the leaves and litter should be thrown together in a heap, moistened if necessary, and turned once or twice so as to thoroughly mix them and induce gentle fermentation. Overheating must be avoided, the heat in the early stages never exceeding 70° to 75° at the base of the pots, nor more than 60° to 65° about them until growth takes place. If trees have to be purchased, select those with single stems, and such as have not been hard second-cropped, thoroughly ripe in the wood, and having Fig buds in evidence of cropping. The large fruits will not come to anything; it is the small rounded fruit or buds that give the first crop. The trees may be potted if they require a shift, but let it be small; in fact it is wisest to merely cut off the drainage portion of the ball, loosen the soil a little at the sides, and remove the loose surface soil, shortening any straggling roots, and return to the same size of pot or such as will admit of a little fresh soil under, around, and over the ball, all pressed as firmly as possible. Figs like a calcareous soil, say three parts yellow fibrous loam, one part old mortar rubbish, one part road scrapings, and one part decayed stable manure, with a 9-inch potful of half-inch crushed bones to 3 bushels of the compost, and a similar proportion of charcoal, all well mixed. Suitable varieties for early forcing are St. John's (Tresfer), Early Violet, and Angélique (Madeleine). Black Provence and White Ischia, are also suitable, have small fruit, Angélique being medium size, and bear heavy first and second crops, without prejudice to succeeding year's crop. White Marseilles and Brown Turkey (Dwarf Prolific and Lee's Perpetual) are unequalled for forcing so as to produce fruit from trees in pots in late April or early in May, and they are large and good in flavour.

Early Forced Planted Trees.—Trees planted in borders and intended for affording ripe fruit at the end of May or early in June, they being started at the new year, must now be untied from the trellis and pruned. Those restricted at the roots to small borders in a firm condition will, from their short-jointed and sturdy growths, require little more in the shape of pruning than thinning out the shoots where too crowded and

cutting away the parts which have reached the extremities of the trellis and become bare of fruitful wood. Those not having the roots restricted will require hard pruning at the upper part of the trellis, allowing room for the growth of the successional branches; but severe pruning only induces stronger and less fruitful growths. Such trees should be lifted, and have the roots confined to narrower well-drained borders of firm soil. Remove the surface soil down to the roots, pick out the old soil from amongst them carefully, and supply a top-dressing of fresh loam with some old mortar rubbish intermixed. Ventilate fully at all times, except when frost prevails, and at such times heat should only be used to exclude it, though the trees will not take any harm unless the weather is very severe.

Succession Houses.—When the leaves have fallen prune the trees and well wash them with a soapy solution, using a brush, which will do much to dislodge the insects, and after the woodwork and walls have been scalded with hot water, keeping it off the trees, the latter may be dressed with an insecticide, and the walls limewashed. Complete any root-pruning, lifting and laying the roots in fresh compost. Fig trees with the roots restricted are more manageable and fruitful than those with an unlimited rooting area; therefore lift, and severely root-prune any unfruitful trees, and restrict the roots to moderate-sized borders, making the soil firm and employing good loam with a sixth of old mortar rubbish and a sixth of road scrapings, good drainage being paramount.

Late House.—The trees should have the wood cut out that has borne fruit and is no longer required, and any trees having a tendency to over-luxuriance or that cast their fruit instead of swelling off should be lifted and have the roots confined to borders of limited extent. When the leaves fall the trees must be unloosened from the trellis, and being tied together they should be made safe against frost by placing a little hay or straw amongst them and covering them with the latter or mats, for trees in cool houses suffer nearly as much from frost as those against walls outdoors. The roots near the collar are better with a slight protection of dry material.

Peaches and Nectarines.—*Early Forced Trees.*—Where the supply of fruit in late April or early in May is had from trees of Royal George and Stirling Castle Peaches, with Lord Napier and Stanwick Elruge Nectarines, forcing must commence in earnest at the beginning of December, the house being closed at the middle of November, but no fire heat need be used in the first fortnight beyond that necessary to exclude frost. The trees, therefore, must be got into proper order without delay, not, however, putting on the lights to make things comfortable, as they are better off until the time stated, and there are favourable opportunities for attending to the necessary work, though it is better done as soon as the trees become leafless.

Succession Houses.—When the leaves are all down, there not being any forcible means taken to secure that end until they part freely from the trees, unfasten the latter from the trellis, and prune them; also thoroughly cleanse the house, paint the woodwork and trellis, limewash the walls, and after washing the trees with soapy water and following with an insecticide, secure them to the trellis, leaving room for the branches to swell, as tight-tying is one of the most prolific sources of gumming. Clear away the loose surface soil or mulching, pick some of the old from amongst the roots, and supply fresh rather stiff loam, with a quart of steamed bonemeal to every three bushels, and add about two quarts of wood ashes to the same. The advertised fertilisers may be used in similar proportions. If the roof lights are not moveable, give a thorough supply of water to the inside borders, and do not allow them to become dry during the rest season, ventilating fully. It is better, however, to remove the roof lights, let the rain cleanse and refresh the trees, moisten and enrich the soil through to the drainage. Attend to any lifting, or the introduction of fresh trees, as this work and root-pruning should be performed before the leaves have dropped, yet the wood ripe and the buds plumped. Trees for planting in houses are best two or three years trained to walls, and, lifted in the preceding year, they transplant with an abundance of fibres, and can be forced very well the first year if not started before the new year, not brought on too rapidly, and not overcropped. Trees, however, that have been grown under glass have the wood better ripened, and are more suitable for early forcing. If young trees must be planted, select such as have no trace of gum, but are clean in growth, not very strong in the wood, shapely and well but not over-furnished with branches. The sooner they are planted after they are in a fit condition the better, so that they may become somewhat acclimatised.

Late Houses.—Salwey is sometimes fairly juicy, and not always more woolly than fleshy, yet it is only a sorrowful fruit after the juicy and rich Gladstone Peach. This seems to be just as good in October as in September, and it certainly gets bigger and better with cultivation. Cut out non-extension wood that has borne fruit as well as any other growths not required, as this lets daylight reach those that are left, and nothing is so prejudicial as too much wood in late houses. Any trees that are not ripening the wood well will be induced to do so by forming a trench about one-third the distance from the stem the trees cover in height of trellis and down to the drainage, so as to detach the roots. Do not allow the foliage to flag severely, but supply water if necessary to the part inside the trench, and let that remain open about a fortnight, then remove the surface soil down to the roots in the undisturbed part; pick out the soil from amongst them, supply fresh loam, fill up the trench, make all firm, and give a good watering. The trees will push fresh roots, plump the buds, and the blossoms from them invariably set well, whilst the fruit is rarely cast in stoning.

THE KITCHEN GARDEN.

Asparagus.—The tops of these have now in most cases done their work, and are quite brown enough to be cut and burnt. Whether mown with an old scythe or cut with hook or a knife avoid stubbing them down too closely to the ground, a length of 6 inches of stem above the soil denoting the whereabouts of, and, it may be, saving many crowns from being forked into or trampled upon. Weeds are frequently too abundant among Asparagus, especially where no heavy mulching material is used. These must be cleared off by hand-weeding, and not hoed up or dug in. Select a dry day for this work, and well shake the soil from the roots of the weeds, or otherwise far too much of it will find its way to the rubbish heap. Seed pods are very abundant, and if a few of the strongest growths well furnished with these are hung in a dry shed abundance of excellent seed can be rubbed out when wanted next March or April. New seed always germinates the most quickly and strongly. Forcing of Asparagus may commence now, but the young growths obtained in November or very early in December are not nearly so good as they would have been had the crowns been allowed a longer rest. Only those, therefore, with an unlimited supply of strong old roots ought to commence forcing as yet.

Manuring Asparagus Beds.—Autumn manuring is practised with very satisfactory results in many cases, but is far from being generally safe or advisable. It may easily do more harm than good. A heavy surfacing of half-decayed manure may be beneficial where the soil is of a light or non-retentive character, but it has been the means of destroying thousands of crowns where the soil and subsoil is of a clayey nature. Asparagus, if the roots are not actually exposed, is perfectly hardy, but it cannot survive several months together in a cold retentive soil. Mulching a bed with decaying manure serves to keep the soil unduly moist and cold, the spring finding it in a saturated pasty state. Let heavy soils have the benefit of all the frosts, winds, and sunshine going, and it will then be found in a comparatively warm friable condition next spring. Being undisturbed the rains will pass away freely, some running off the surface and still more through the drainage holes made by worms, whereas loosened surfaces absorb nearly all the rain and snow water that falls. If the beds are manured now avoid chopping down the sides, as this is most destructive to the roots. Only what may be raked off the surface should be thrown back over the manure, the sides being left intact and the paths or alleys undug, many active roots invariably being found in the latter.

Beet.—A severe frost completely spoils any roots of these not protected, and no further risks ought, therefore, to be run. In lifting do not drag out the roots, but carefully raise with forks, thereby avoiding breaking the tap roots, as these when broken are apt to bleed, a loss of colour being the inevitable consequence. The tops should be screwed off and not cut, and after clearing them of the worst of the soil clinging to them either store the roots in a cool shed or cellar or else place in a cone-shaped heap in a cool dry spot where rats and mice would not be likely to get at them. They shrivel badly in dry hot positions, but will keep well in a cool shed if packed in sand or fine soil, crowns outwards, an additional covering of mats or litter being afforded during the prevalence of severe frosts. Those stored outside in a heap should be covered with dry straw, and then heavily soiled over much as Potatoes are sometimes stored. The coarsest roots of the larger varieties are not appreciated by good cooks, and these should go to the pigs. Turnip-rooted forms keep fairly well, but if roots of a long-rooted variety are plentiful use the former first.

Carrots.—These also ought to be lifted and stored. Raise them with forks, throw all the badly cracked roots on one side for horses to eat, clear those selected of heavy soil, and cut off the tops an inch away from the crowns. They may be stored either in cool sheds, in sand, or in heaps outside, and protected as advised in the case of Beet. Late sown Carrots have grown rather more strongly than desirable, many of the roots being larger than are appreciated by those who like to have sweet young roots served whole as a vegetable. These should only be drawn as required for use, thinning out being practised, as the smaller ones left usually improve in size during the winter. Frosts rarely injure late sown Carrots, slugs and grubs being the worst enemies the cultivator has to contend with. A light surfacing of wood ashes, or failing this soot, the dressing being stirred in with a Dutch hoe, may help to keep such pests in check.

Other Root Crops.—Jerusalem Artichokes are perfectly hardy, and keep much the best when left undisturbed where they are grown. If severe frosts are anticipated cover a portion of the bed with a good thickness of strawy litter, and the roots can then be lifted during the coldest weather. The roots of Celeriac, or Turnip-rooted Celery, are far from being hardy, and should, therefore, be either heavily banked over with soil or else be lifted, have the tops trimmed off, and be then stored very much as advised in the case of Beet. Salsafy and Scorzonera roots are quite hardy, and also keep much the best in other respects when left where they are and dug as wanted for use. A portion of the rows being banked up with strawy litter, the roots can be dug during the prevalence of the severest frosts. Chicory, on the other hand, is not so hardy as desirable, and it is advisable to lift and store the roots, crown outwards, much as Carrots are treated. A few dozen of them can then be introduced into the Mushroom or other warm quarters, where the tops will grow quickly and blanch thoroughly. Treat Parsnips exactly as advised in the case of Artichokes, it being a great mistake to lift and store these. Turnips, especially if rather large, cannot be depended upon to pass safely through the winter where they now are,

and in order to be on the safe side with this important root pull and store at least a portion of the crop. They keep very well if trimmed and stored similarly to Potatoes, the heaps being examined occasionally and all sprouts rubbed off the roots. Chirk Castle Black Stone is the hardiest variety, Orange Jelly also standing well through most winters. The latest sown, and which have failed to "bulb" properly, ought to be left where they are, as these may produce an acceptable crop of greens. Leeks are perfectly hardy, and continue to increase in size whenever the weather is mild.

PLANT HOUSES.

Allamandas.—These will continue to flower for some weeks longer, provided they are liberally supplied with stimulants. Plants grown in pots will be crowded with roots, and a dressing of decayed manure on the surface will help them to develop their flowers; in addition to liquid manure frequently, artificials may be applied to the surface. If the plants are not well supplied with food the flowers will be small and only poorly developed. Growths that have done flowering should be thinned out, so that the energy of the plants may be devoted to the development of the flower buds that are formed. Light will also be admitted to the occupants beneath and also to the flowers, which will be of a brighter colour.

Gesneras.—Be careful not to water these on their foliage or they will be browned and disfigured. At this period of the year until they come into flower they do best on a shelf fairly close to the glass, where a good heat and a fair amount of moisture is maintained. Give these plants clear soot water every time they need water. Be careful not to allow them to become dry; on the other hand, they should not be kept wet.

Tydas.—Those that are coming into flower may be removed to the stove proper, but they should have the driest position or else the foliage will damp. The remaining portion of the stock may be given the treatment advised for Gesneras. Spring-flowering kinds of the Madame Heine type that do not make underground stems may have a temperature of about 60°. These do best standing on some moisture-holding material.

Crotons.—Plants that are needed for room decoration should be given slightly cooler treatment than the main stock of Crotons. When well hardened these plants last in such positions for a very much longer period of time; in fact, double the length of time than when removed from a close moist structure where a high temperature is maintained. Growth should now be complete and no attempt must be made to force these plants to grow. Young leaves made at this season rarely colour, and if used in rooms before these are developed they invariably flag and frequently fall off.

Acalyphas.—Plants grown for winter decoration in rooms should not be kept too warm, or they will continue to grow and the young leaves flag when removed to cooler and more draughty quarters. These plants should occupy an intermediate structure where air can be given daily. This not only prevents further growth but hardens the plants so that they bear room decoration fairly well for a time without losing their foliage. For the conservatory in summer these plants will in future replace Coleus altogether. When properly grown for this purpose they stand well and are much more effective, being choicer in appearance than Coleus. Plants that have become shabby may be cut down and placed in heat to break. Keep them on the dry side at first or the roots will perish.

Poinsettias.—The earliest batch will have commenced to show their bracts, and these may have a temperature of 65°. The plants, if strong and well grown, will develop large bracts in this temperature. Keep them as near the glass as possible; on this depends whether the bracts are brilliant in colour or the reverse. Feed with weak stimulants every time water is needed. Later batches should be kept at 60° with a little air daily until growth is completed, when the temperature may be raised. If kept too warm before the completion of growth the plants often start growing, and only poor bracts are produced.

Euphorbia jacquiniæflora.—Keep plants at 55° to 60° until they display their flower buds; if the growths have not been well ripened and are kept too warm they will start into growth instead of flowering. Once they do this all chance of their blooming satisfactorily is over. Do not overwater these plants, for they are very liable to go off at their roots if kept too wet. *Justicia flavicoma*, not yet showing flower, may have the same treatment. Plants that are showing flower may be brought into bloom in the temperature advised.

Celosias.—Plants that have been kept in a temperature of 55° to 60° to bring them into flower should be carefully and gradually hardened before they are placed in the conservatory. When forced out in heat and removed direct to a lower temperature they are liable to damp off just above the soil. When care is taken to harden them they should be watered judiciously and then they will last a long time.

TRADE CATALOGUES RECEIVED.

Wm. Clibran & Son, Oldfield Nurseries, Altrincham.—*Roses, Shrubs, Fruit Trees, &c.*

Ralph Crossling, Penarth Nurseries, South Wales.—*Fruit Trees, Roses, &c.*

E. P. Dixon & Sons, Hull.—*Forest and Ornamental Trees, Roses, &c.*

Pitcher & Manda, Hextable, Swanley, Kent.—*Chrysanthemums.*

W. Wells, Earlswood Nurseries, Redhill.—*Chrysanthemums.*

THE BEE-KEEPER.

APIARIAN NOTES.

NEVER in all my experience has the work of the apiary been so long delayed as during the present autumn. Many apiaries still remain as the hives were brought from the Heather, and many to feed yet. My own have all been finished and fed as required for more than a week now; but should a favourable day occur between this and the middle of November, I shall give all a feed. This is very good for bees at the beginning of winter, encouraging them to fly out and clean themselves thoroughly, by which they are enabled to withstand a protracted winter.

NARROW DOORWAYS.

Every one of my hives have their doorways contracted to three-quarters of an inch, and I shall allow them to remain so until the bees in spring show a desire to have them widened. Should they take an airing any day during winter I may widen them until their flight is past, then close again.

WINTER PRESERVATION OF BEES.

This has been long studied, and is still a problem to many bee-keepers; but in my own apiary that has been many years solved. It is now thirty years or more since I wrote to the *Cottage Gardener*, explaining my method of insensible upward ventilation, and Mr. G. M. Doolittle in "Gleanings" for October speaks of the system favourably. He says: "I adopted the plan as it was then termed, although I now look at it as practically no direct ventilation, unless you can call it ventilation which we have when sleeping under our warm comforters on a cold winter night." Precisely so. Just what I practised and taught so long since, and still continue to do so, because it is the only method we can successfully bring bees safely through winter.

Bees never die of old age. They only become worn out by much flying, or succumb at an early age to the rigours of a severe winter when located in hives having either a draught or dampness inside the hive. Youthful bees that have never flown and that were bred late in the fall, are those that die first and communicate disease through cold to the adult bees between November and February.

During my stay at the Heather I visited several batches of bees, numbering from twenty to forty hives in each lot. In one of the latter there was a division of 20 feet between two sets of hives. There was nothing else to distinguish or influence them in any way, all looking easterly towards the Heather, and within 20 feet of a field of Oats, sheltered behind by a stone dyke and a few trees. One batch had a good-sized swarm of dead bees in front of every hive besides what were lying scattered further beyond, and a number of them dead. In another lot in a line with them there was scarcely a dead bee to be seen. In the last named the entrances were less wide and apparently better covered, while the former had very wide entrances and the ventilators opened. This was all the difference I could distinguish between the two lots, the hives being similar in all other respects.

In another batch of forty hives there were four better protected than the others, being well covered with felt, and the entrances were half the size of the others. These four hives lost very little weight, while all the others did, from 10 to 20 lbs. each.

STRONG HIVES.

I never had hives so full of bees as they are this autumn; in fact, more than I care for at this season. Too many consume much honey, and are unnecessary to carry on all the breeding required for swarms at the proper period; better, however, too many than too few. I hope for the best, and for better seasons than the one now closed. Strong hives at the present time are, or ought to be, the great desiderata of bee-keepers. One queen to one hive properly managed meets all the requirements of the majority of bee-keepers, but in some cases it is absolutely necessary to have the progeny of two queens in one hive.

Premising, then, that all have their hives in proper order to withstand the winter and survive the spring unscathed by extreme zero weather or internal dampness, and anxious to catch the first flow of honey, a proportion of hives must be sacrificed at not less than one month before the expected first honey yield. In another article I will explain how to accomplish this.—A LANARKSHIRE BEE-KEEPER.



*All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Odontoglossum citrosum not Flowering (C. R.).—No doubt your plants have had too much water, as this lovely Orchid is often spoiled in this way; the plants should be hung near the glass in the house they are in at present. When growth has finished they require no water for weeks together, and even when growth commences no water should be given until the spikes are several inches long. Do not be afraid to keep them dry while resting, then you may expect better results.

Plum Trees for a North Wall (Amateur).—As the Currants are not wanted Plums and Cherries may be grown. Morello Cherries would be more certain to bear and ripen well than dessert sorts, though we have no doubt good fruit might be had from these. All except the latest Plums would answer. We have had good crops of Czar, Victoria, White Magnum Bonum, Prince Englebert, Kirk's, Pond's Seedling, and Purple Gage, from trees against a wall facing due north, the second-named bearing most heavily. We should prefer covering the wall with diagonal cordons, planted about 18 or 20 inches apart. The space would be covered much more quickly than with fan-shaped trees, and the former are inexpensive.

Simple and Good Methods of Storing Apples (F. G. B.).—In many gardens there exists a collection of Apples, and, as in your case, no adequate provision made for storing the produce. Very frequently the crops are comparatively small, or, say, do not exceed a bushel of each variety. The best course to pursue with these is to gather and store each variety separately in quite clean boxes, which may be bought or made at a trifling cost. None but quite sound fruit are suitable for this method of storing, and these should be carefully gathered and placed direct in the boxes. The lids should be then put on and all be set in a dry room or outhouse, and protected from severe frost when necessary. Apples thus stored and left alone will keep surprisingly well.

Grafting Tea Roses (Rosa).—Grafting can be done at almost any time provided the stocks and scions are in suitable condition, but is generally delayed until after the turn of the year, as with increased light and heat from natural causes the plants then grow with vigour after the union is complete. Grafting usually commences in January, using wood in a dormant state or nearly so, and the stocks must be in the same condition. It is not necessary that the plants from which scions are taken should have flowered if you are certain that the varieties are true. The greatest success by a beginner would be attained by starting his plants from which the scions are to be taken in heat and the stocks also until the sap has commenced rising freely. The wood of the scion should be nearly half ripe; it should have, at any rate, a certain amount of solidity. It is not necessary to introduce the stocks into heat as early, the scions producing plants. Still, if you work any in a dormant state you may introduce the two together, and when the sap in both commences flowing grafting can be performed. One eye on each scion is ample. It will be necessary to have a close frame, the same as you would employ for propagating, to place them in after they are grafted, and if slight bottom heat can be given them all the better. This is especially necessary when moderately young wood is used for scions.

Gas Lime for Ground to be Cropped with Potatoes (R. B.).—We use gas lime on ground intended for Potatoes alike as a preventive of attack by vermin and fungi. It is from our own works, the gas being manufactured for lighting the mansion, stables, and the driving engine for pumping, consequently we have always got some available. The best time to apply it is, to ground to be cropped with Potatoes in October or November before the ground is dug or manured, and at the rate of half a bushel per rod (30½ square yards). It should be disposed as evenly as possible on the ground, and either lightly hoed or pointed in with a fork. At that time vermin and fungoid germs are on or near the surface, and more readily available for attack, and any injurious effect the gas lime may have passes off by exposure to the atmosphere; in fact, passes quickly into the gypsum state, in which it is not a despicable manure. After lying a month or so the ground is manured if necessary, the gas lime being buried in the work of forking or digging. In spring, before the Potatoes are planted,

we occasionally use the gas lime again, particularly for ground that has not previously or recently been dressed with it, at the same rate as in the autumn, spreading it evenly on the surface, and leaving it there for at least a month before "setting" the Potatoes. This, however, is only practised when the ground is foul with slugs, as the full application of gas lime—viz., 1 bushel per rod, should only be had recourse to when the soil, as shown by the attacks on the crops, is extremely foul. As to the beneficial effects of a dressing as a preventive of scab, we can only state that on some ground which three years ago gave scabbed crops, the Potatoes are this year free, the land having been consecutively cropped with them, which in this particular instance is a necessity. It is not, however, sound practice to follow Potatoes on ground that produce scabbed tubers, nor to use "seed" tubers that are scabbed or taken from an infected crop. Necessity, however, precludes choice, and it is not certain that the ground is at fault, as tubers show no trace of scab at lifting, but during the winter it develops, and they become much deteriorated in value, the quality being invariably good.

Preventing Disease in Tomatoes (S. S.).—When the white mould that you call mildew is seen on Tomato plants it is then too late to save that part of the leaf from destruction, for the "mould" is the out-growths from the mycelium of the fungus which has pushed through the cells of the leaf and abstracted their contents; in fact, destroyed the tissues, and the brown or black spot or patch appears in consequence of their death. The best way to avoid the Tomato disease, the "white mould" (*Phytophthora infestans*), is to maintain a warm but airy yet genial condition of the atmosphere, for the simple reason that the spores cannot germinate in a dry atmosphere; therefore the "white mould" is seldom seen in Tomato houses until the weather becomes warm and the atmosphere is laden with moisture. True, it makes its appearance sometimes early in the season because the moisture condenses on the leaves. The conidia of the fungus needs and must have this moisture to liberate the zoospores, and then is the time to prevent these finding a seat and pushing their germinal tubes through a stomate or weak part of the leaf into the internal tissues. If that is done there cannot be any white mould. The way to do it is as follows:—Dissolve 1½ oz. of carbonate of copper (precipitated) in a pint of liquid ammonia; of this one fluid ounce to 1½ gallon of water, mix, and spray (not syringe) every part of the plants, particularly the under side of the leaves, using no more than just sufficient to coat the leaves with the finest possible dew. This may be done just before the plants come into flower, again when the fruit is fairly set and swelling, and about the time the fruit is half swelled. The first two applications are usually effective, but if a third or more is needed it is necessary to have some oilskin bags made with a slot and string at the mouth to slip over the fruit and secure them around the fruitstalks by means of the string, so as to keep the solution from the fruit, taking them off when the plants have been sprayed and become dry. If the solution is found too strong, blackening the leaves, dilute to 3 gallons, and if any "white mould" appear cut off that part of the leaf or leaves and destroy by fire. This procedure requires care and judgment. When both are duly exercised the operations pay cent. per cent.

Pears Cracking (May).—The fruit you have sent is suffering from an attack of a fungus, *Cladosporium* (*Fusicladium*) *pyrinum*, *Fekl.*, a form of *Cladosporium dendriticum*, which causes "scab" in Apples. Certain varieties are peculiarly liable to injury from this fungus, also locality and soils exert an influence, for a variety will crack seriously in one part of a garden or orchard, whilst in another position the fruit will be clean. It is often found that lifting a Pear tree, subject to suffer from cracking in its fruit, and giving it some good top-spit loam, is effectual in warding off attacks of *Cladosporium*, and it must be distinctly understood that healthy trees are always the least liable to an attack. Attend, therefore, to those essentials that are known to promote health in the tree and clear skins in the fruit, that is, fortify them so that they form clean bark and thick leathery leaves. Aim at not strong and sappy, but medium, healthy, firm growth. Whatever, therefore, is wanting at the roots supply it. If the soil is wet, drain it; if too heavy, make it lighter, and *vice versa*; if the tree grows too luxuriantly, lift, root-prune, and replant it in firmer or less rich soil; if the tree is stunted, afford some manure of a sustaining nature; if the soil is exhausted, remove it, and supply fresh of a good holding nature; if there is a great show of blossom in spring, remove half or more, and thin the fruit. The scab fungus lives through the winter on the young shoots and upon the scales of the buds, and if the germs are killed before or during germination there cannot be any scab in Apples or cracking in Pears as occasioned by this fungus. First, in the early spring before the leaves appear, spray the tree with the preparation of sulphate of copper mentioned in the preceding reply, choosing a dry period and with a prospect of fine weather. Second, as soon as the petals have fallen, apply 1 oz. of carbonate of copper (precipitated) in suspension with 12½ gallons of water, first mixing the carbonate of copper in a small quantity of water, adding the mixture so formed to the water; keep it agitated whilst being applied as a spray, a knapsack pump doing it effectually. Third, repeat the application of carbonate of copper in suspension in fourteen to twenty-one days, and again at a similar interval in bad cases, but the three first dressings are usually effectual, a fourth only being required in wet seasons.

Planting Yews and Hollies (Amateur).—Some shrubs fail no matter when they are planted, through not being in proper condition for removal. We have seen hundreds of large shrubs purchased at a low price, the possessors having been not a little jubilant in getting

so much for their money. The evergreens had remained crowded and unmoved for years. As a consequence, though tall, they had few roots, and these not of a fibrous character; moreover, they were dried by exposure between the time of taking up and planting. Such examples are bound to fail. They are supposed to produce an "effect at once," and they do, but it is not very good to begin with, and is in a few weeks or months decidedly bad, for they die. Yews and Hollies with an abundance of bushy fibrous roots through periodical transplanting in well managed nurseries—shrubs the very opposite in character of those above described—will grow well if properly planted in moist well worked soil, either in the autumn or the spring, though they may require to be watered and syringed afterwards if very dry weather should prevail. Large, so-called "cheap," shrubs are usually the most costly in the end. If we desired to plant a number of Yews and Hollies we should order them from a good nursery forthwith, expect the roots to be moist on arrival, and they would be planted at once. If the soil were dry we should take care to make the sites thoroughly moist before planting, also immediately afterwards give a good watering. Midwinter planting, when the ground is very cold, is not so reliable as spring planting when the buds commence swelling. We have planted numbers of the evergreens mentioned at the end of October without a failure, and many of a large size proportionately well rooted, the taking up and planting having been well done, and proper attention accorded afterwards; and we have had equal success in spring, but with more after attention, for not one out of a hundred has died. The mere "time" of planting is only one factor, and not the most important, the condition of the shrubs, soil, and methods being of greater moment in accomplishing the object in view.

Names of Fruits.—*Notice.*—Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing.* The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. (*F. M. M.*).—Pear is Chaumontel, the Apple Winter Hawthornden. (*F. E. M., Solihull*).—Beurré Clairgeau. (*G. M. S.*).—B, Lady Sudeley; C, Golden Harvey. (*J. Hawkes*).—1, Beauty of Kent; 2, Minchall Crab; 3, Bess Pool; 4, Court Pendü Plat; 5, Cox's Orange Pippin; 6, Beurré Diel. (*J. E. K.*).—1, Gloucestershire Costard; 2, Cellini; 3, Reinette de Caux; 4, Nonesuch; 5, Yorkshire Greening. (*D. H.*).—1, Blenheim Pippin; 2, Aromatic Russet; 3, Golden Pearmain; 4, Court of Wick; 5, Autumn Pearmain; 6, Cratægus coccinea. (*E. B.*).—These are probably local varieties, which we cannot identify. (*F. A. J. E.*).—A, Duck's-bill; B, Cox's Orange Pippin; C, Golden Noble; E, King of the Pippins.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*T. A. D. M.*).—1, Cotoneaster Simmondsi; 2, Zenobia speciosa; 3, Andromeda floribunda; 4, Escallonia macrantha; 5, Garrya elliptica; 6, a variety of Ceanothus azureus, possibly Gloire de Versailles, but much faded. (*May*).—1, Begonia, no flower being sent we cannot determine the variety; 2, Satureia montana (Winter Savory); 3, Begonia metallica; 4, Cotoneaster microphylla; 5, Onychium japonicum; 6, Aster, probably Amellus bessarabicus. (*Taylor*).—1, Platycerium alcorni; 4, Tradescantia; cannot determine species. The remainder of your specimens were completely dead. If you send again pack in damp moss to keep them fresh. (*W. B.*).—Maxillaria picta.

COVENT GARDEN MARKET.—OCTOBER 26TH.

MARKET quiet, with heavy supplies all round.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, half sieve	1	0	0	3	Oranges, per 100	4	0	0	9
Cobbs, Kent, per 100 lbs. ..	0	0	100	0	Peaches, per dozen	2	0	6	0
Grapes, per lb.	0	6	1	6	St. Michael Pines, each ..	3	0	6	0
Lemons, case	15	0	35	0					

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beaus, Kidney, per lb.	0	2	0	0	Mustard and Cress, punnet ..	0	2	0	0
Beet, Red, dozen	1	0	0	0	Onions, bunch	0	3	0	5
Carrots, bunch	0	4	0	0	Parsley, dozen bunches	2	0	3	0
Cauliflowers, dozen	2	0	3	0	Parsnips, dozen	1	0	0	0
Celery, bundle	1	0	1	3	Potatoes, per cwt.	2	0	5	0
Coleworts, dozen bunches ..	2	0	4	0	Salsafy, bundle	1	0	1	6
Cucumbers, dozen	1	6	3	6	Scorzoneria, bundle	1	6	0	0
Endive, dozen	1	3	1	6	Seakale, per basket	0	0	0	0
Herbs, bunch	0	3	0	0	Shallots, per lb.	0	3	0	0
Leeks, bunch	0	2	0	0	Spinach, bushel	3	0	3	6
Lettuce, dozen	0	9	1	0	Tomatoes, per lb.	0	2	0	4
Mushrooms, punnet	0	9	1	0	Turnips, bunch	0	3	0	4

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.

Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	4	0	0	6	Lilium (var.) doz. blooms	1	0	0	3
Asters, English, doz. buchs.	4	0	8	0	Maidenhair Fern, doz. buchs.	4	0	6	0
Bouvardias, bunch	0	6	0	9	Marguerites, 12 bunches ..	2	0	4	0
Carnations, 12 blooms ..	1	0	3	0	Mignonette, 12 bunches ..	3	0	6	0
Chrysanthemums, dozen	1	6	2	0	Orchids, per dozen blooms	3	0	12	0
Chrysanthemums, dozen	1	6	2	0	Pelargoniums, 12 bunches	8	0	12	0
bunches	6	0	12	0	Primula (double) 12 sprays	0	6	0	9
Eucharis, dozen	3	0	6	0	Pyrethrum doz. bunches ..	3	0	6	0
Fuchsias, per bunch	0	6	1	0	Roses (indoor), dozen ..	0	9	2	0
Gardenias, per dozen	2	0	4	0	„ (outdoor), doz. bunch.	6	0	8	0
Geraniums, scarlet, 12 buchs.	6	0	8	0	„ Red, per doz. blooms ..	1	0	2	0
Gladioli (various), 12 sprays	1	0	2	0	„ Tea, white, dozen ..	1	0	2	0
Lilium longiflorum 12	6	0	9	0	„ Yellow, dozen	2	0	4	0
blooms	6	0	9	0	Sweet Peas, dozen bunches	1	0	3	0
					Tuberoses, 12 blooms ..	0	3	0	6

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (golden) dozen	6	0	0	12	Foliage plants, var., each ..	2	0	10	0
Begonia, per dozen	6	0	12	0	Fuchsia, per dozen	3	0	6	0
Chrysanthemums, per doz.	6	0	9	0	Heliotrope, per dozen ..	6	0	9	0
„ large plants, each	1	0	3	0	Lilium lancifolium „ ..	12	0	15	0
Cupressus, large plants, each	2	0	5	0	Lycopodiums, per dozen ..	3	0	4	0
Dracæa terminalis, dozen	18	0	42	0	Marguerite Daisy, dozen ..	6	0	12	0
„ viridis, dozen	9	0	24	0	Mignonette, per dozen ..	6	0	12	0
Euonymus, var., dozen ..	6	0	18	0	Myrtles, dozen	6	0	9	0
Evergreens, in var., dozen	6	0	24	0	Palms, in var., each	1	0	15	0
Ferns, in variety, dozen ..	4	0	18	0	„ (specimens)	21	0	63	0
„ (small) per hundred	6	0	8	0	Pelargoniums, scarlet, doz.	6	0	9	0
Ficus elastica, each	1	6	10	6	Solanums, per dozen	9	0	12	0



FRUIT AND VEGETABLE FARMING.

THOUGH there is much to learn about fruit and vegetable growing for market, the knowledge of this generally is far in advance of what is known about the preserving or possible extended use of such produce. What are we to do with it? is the farmer's query when told to grow it instead of so much corn. In support of his question he can point to a frequent glut of markets, of crops upon which no profit was realised, of fruit and vegetables unsold and spoiled. He has some reason then to hesitate till he can see his way with at any rate a greater degree of certainty. Conjointly with improved culture we want to clear the way for a ready market, and to incite an increasing demand for cheap fruit and vegetables of all kinds. Some day Asparagus will be as cheap as other vegetables; its culture will also cease to be confined to special districts. If tillers of the land only knew how they would soon have hundreds of acres under this crop alone, but its mere price on market keeps them back. "Surely such an expensive vegetable must be very difficult to grow," say they, without taking the trouble to look into the matter and seeing for themselves what is possible. If one man had the courage to do so he would soon have a crowd of others following his lead; it is always so. Farmers are about as timid as they are ignorant; not till Scotch farmers led the way in dairy farming in Essex was it taken up by others. Before their arrival corn growing was declared to be the only crop suitable for that locality, climate and soil were alike unsuitable for grazing; yet we now find most of the land under green crops, with very large herds of dairy cows upon it. Just the same thing is said of Suffolk by the East Anglian farmers. Corn is and must be the staple crop for them, say they, and with stolid persistence they continue growing corn. Who will go and teach them to do otherwise? With a surplus of some twenty million quarters of Wheat over the world's requirements its price must continue low even if it falls no farther, and yet we might point to the possibility of Wheat at 20s. per quarter.

Well said Mr. Whitehead in his article in the Journal of the Royal Agricultural Society, to which we referred last week, that

the demand for fruits—preserved and green—can be almost indefinitely increased. It is precisely in this that there are such vast possibilities. A growing popular demand while pointing to a low price also indicates vast quantities. With the growth of a knowledge of the laws of health the true value of fruit and vegetables as really nourishing food will be grasped, and both—but especially fruit—will be required in such quantities and of such excellence that fruiterers' shops will be as numerous as butchers'. They are so practically now; grocers already give much prominence to imported preserved fruits as well as to American Apples in barrels. Of home produce there are jams and bottled fruits, both excellent, but the jam has to be purchased with caution, much adulterated stuff having been pushed into the market even by firms of high standing who ought to see that only a pure article passes through their hands. It is possible that they, as well as consumers, are ignorant of what is really pure, yet the difference is plain enough if pure and impure jam is tasted.

Fruit-canning after the American fashion is not among our home industries yet. Like fruit evaporation it is coming; meanwhile we pay others for doing it, and go on grumbling about hard times and asking for State aid and rent reductions. According to Mr. Shelter, "The process of canning is a simple one, being merely to drive out the germs of fermentation by heating the fruit and excluding the air. Success depends not on the amount of sugar used, but on the entire exclusion of air. To accomplish this there are two methods in use. The first and most perfect method—that employed by the canning factories—is to pack the fruit, neatly prepared, as closely as possible into the glass jars. Fill the jars with a syrup made by boiling water and sugar together in the proportion of about one cup of sugar to one quart of water. This will make syrup enough for two quart jars. Place the jar in a tank or boiler of tepid water on a rack, so as to allow the water to come within an inch of the top of the jar, screw on the cover loosely without the rubber, cover the tank or boiler, and boil till the fruit is done. Ten, or at most twelve, minutes are enough for berries, Currants, or Pears and Apples. Have some syrup ready for filling up the jars. When done remove the jar from the water, fill to the top with hot syrup, wipe off the neck, put on the rubber, and screw down the cover tightly."

The second method is one most used by the housewife in America. It is simply to boil the fruit in sugared water in a porcelain lined stewpan or kettle until it is sufficiently cooked, and pour it boiling hot into the jars, stirring it about with a spoon to let the air bubbles escape; fill up with hot juice or syrup, wipe the neck with a moist towel, put on the rubber, screw down the cover tightly, and tighten again when cold.

WORK ON THE HOME FARM.

The nights grow cold, heavy rains fall frequently; leaves, too, fall fast, and shelter for cows and store cattle is now indispensable. See, therefore, that nothing is wanting to afford them perfect shelter and protection from exposure to high wind and cold showers. One serious fault in many yards is the accumulation of sodden litter to such a depth that cows turned out upon it literally stand in water. Let yard drains be kept open, and remove foul, decaying litter from them sufficiently often to avoid, so far as is possible, any considerable amount of wasting of the manure. Some wasting is unavoidable, and the best plan is to get it away into heaps as soon as it becomes foul and unfit for the cows to stand about on. Many a yard have we seen where the manure is allowed to accumulate from autumn till spring, when it is a seething mass of sodden, decaying vegetable matter 2 or 3 feet thick. The whole thing is a costly blunder, wasteful of manure, and hurtful to the cattle.

Keep all hovels and cowhouses thoroughly clean; use plenty of fresh, clean, dry litter daily, keep feeding troughs and mangers clean too. See that the drinking water is pure, do not use roots to excess, but always in moderate quantities. Keep the best sweet meadow hay for the dairy cows, and as they come altogether off grass give them a Cabbage or two apiece daily. Some Carrots should also now be given to them onwards till the end of the year. Remember that when cows and cattle are kept from exposure to cold and wet the food given them nourishes and sustains condition with a fairly full yield of milk. When they are

exposed the food goes to sustain vital heat, really to keep them alive, and they invariably fall off in condition; some die, others suffer so severely that by spring they are in such low condition as to require months of good grazing to set them up again, which of course means just so much loss to the owner.

Keep small or delicate animals apart from others; an extra division or two in yards is easily contrived, and is quite worth while to keep them from being worried and driven from the food by the stronger ones. To understand the importance of this it is necessary to be frequently among them at all times of the day. It is quite possible to pass a cow-yard daily and yet see nothing of any fighting, yet it invariably occurs if cattle are placed together without careful selection.

NOTICES OF BOOKS.

AGRICULTURAL ENTOMOLOGY.*

IN the preface this edition of her useful work, Miss Ormerod tells how the first edition, published in 1884, appeared likely to remain nearly useless till last year, when attention was drawn to it under the technical education scheme of the County Councils; it then sold off so rapidly as to necessitate the preparation of a second edition. In this new issue its scope has been extended, from being a mere guide to methods of insect life to the means of prevention of insect ravage. Prevention or remedies for the harm done by such pests are given, and the book abounds with useful hints, both for the student and practitioner. To give an example we may take the thick fleshy caterpillars of various kinds, which are so frequently injurious to the Cabbage and Turnip crops, of which we are told that the fact of their usually passing the winter under ground puts them very much in our power. We are also reminded that—

"Before the caterpillar turns to the chrysalis it makes a cell in the earth, in which it is protected from wet and sudden changes of temperature. So long as the caterpillars are thus protected no amount of cold to which they are exposed will, as far as we know, do them the least harm; but if they are thrown out of these shelters to the influence of drying winds or hot sunshine, or to lie soddering helplessly on the surface in moist or muddy ground, or to being frozen in these states, then their constitutions will not bear it. This is one of the great principles of prevention:—Turn out the insect pest from its natural shelter when it is in such a condition that it cannot regain it or make a new one."

In this and in every page of the book bearing upon plant life the importance of thorough cultivation and frequent stirring of the soil is shown. It is in rubbish heaps and untilled soil that the insect finds shelter to increase and multiply. Get rid of the one, break up the other, says the talented authoress, and you will destroy it.

Animal pests are also dealt with, and the fixed laws of insect life fully explained; the book is well illustrated, many new figures being given, and as its full value is realised its circulation will extend. That this will be so is certain, for the technical teacher is constantly being asked for text-books, among which Miss Ormerod's must take a leading place as one of the most useful, and as the best introductory work upon the subject it so clearly expounds.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

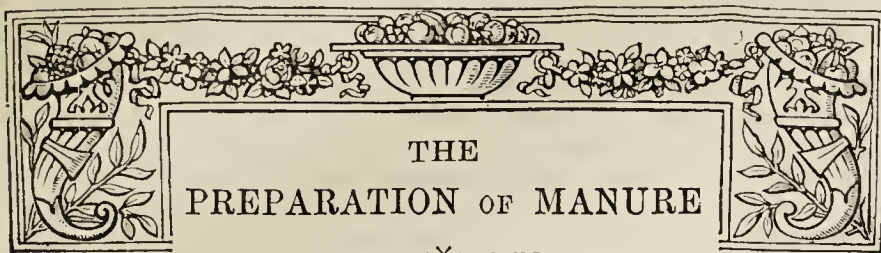
Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1892. October.	Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature			
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.		
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.	
Sunday .. 16	29.709	47.4	46.3	N.E.	48.3	52.1	42.9	69.9	38.4	0.010	
Monday .. 17	29.946	44.2	41.0	N.E.	47.7	51.5	37.3	92.1	32.6	0.041	
Tuesday .. 18	30.237	38.7	37.3	E.	46.2	50.5	34.7	85.6	28.0	—	
Wednesday 19	30.318	41.9	38.0	N.E.	45.1	50.0	34.6	86.9	27.9	—	
Thursday .. 20	30.122	39.7	38.6	S.W.	44.9	49.1	34.8	69.3	28.7	—	
Friday .. 21	29.719	45.0	43.2	W.	44.9	51.2	39.9	76.2	33.0	0.039	
Saturday .. 22	29.603	41.1	38.1	N.W.	44.9	47.4	37.2	83.2	32.9	—	
	29.951.	42.6	40.4		46.0	50.3	37.3	80.5	31.6	0.090	

REMARKS.

- 16th.—Generally overcast, with occasional drizzly showers; a little sun about 10 A.M.
 17th.—Unbroken sunshine till 1 P.M.; cloudy at times after. Heavy showers of conical hail at 2.50 P.M.; rain from 2.30 P.M. to 4 P.M.; generally cloudy after; bright night.
 18th.—Generally fine and sunny, but occasional spots of rain; bright night.
 19th.—Bright and sunny throughout.
 20th.—Fine, with sunshine at times.
 21st.—Overcast early; generally sunny from 10 A.M. to noon. Frequent rain in afternoon.
 22nd.—Bright sunshine throughout; bright night.
 A fine cold week.—G. J. SYMONS.

* *A Text Book of Agricultural Entomology*, by Eleanor A. Ormerod, F.R.Met. Soc., &c. Simpkin, Marshall, & Co., London.



ONE of the difficulties gardeners have to contend with in private establishments is the preparation of the manure for the land they have to cultivate. Very frequently, in fact generally, they have to deal with the litter from the stables and convert it into manure. Unfortunately a superabundance of straw is used, and often a large proportion of the droppings are removed for the growth of Mushrooms. This, then, leaves the cultivator at frequent seasons of the year in possession of a large heap of material that is little better than straw. This litter is often placed in a hole or some convenient position where it remains until it is full; the consequence is it heats perfectly dry, with the result that the nitrogenous matter decomposes, and being a very volatile gas it escapes and is lost. What, however, is not lost has a fair chance of doing so after it passes into the gardener's hands, unless labour is plentiful and time can be devoted to its preparation.

If mixed manures had to be dealt with the matter would be very much simplified; say, for instance, horse and cow manure. The two could be evenly spread. The former, being richer in nitrogenous matter, ferments rapidly and soon becomes heated, while the latter decomposes slowly and gives out very little heat. The one assist wonderfully in the decomposition of the other, and if placed together in nearly equal quantities prevents too rapid fermentation, and consequently loss. We must, however, suppose cow manure is not present, for it very seldom is, and the gardener has frequently to deal with the stable litter being practically confined to its use. He may, by a little scheming or buying, come into possession of some cow manure for various purposes, but that does not affect the question we have to deal with.

The best means when the litter is in the state we have described is to arrange for a good supply of water as close to it as possible, so that it can be well moistened every morning. By this means only can fermentation be kept down and the carbonate of ammonia saved. Better still by far, a tank should be arranged close to the place in which the litter is deposited, so that the drainings from the stables could be pumped over the material. Failing this, however, and very rarely this provision is made, the former must be resorted to and the litter removed as often as possible to the position in which it is prepared for garden use. It is important to have a tank in this yard, so that the drainings of the heap can find its way into it to be frequently returned to the manure during the process of fermentation. Very often the manure yard is minus of this important provision. A hole, however, can soon be made and a tub sunk into it, while the surrounding portion of the hole should be puddled with clay. If this is made large enough the whole of the drainings of the manure may from time to time be returned. It is a decided advantage if the urine of the stables is conveyed to a tank and the litter well moistened with it before the latter passes finally to the manure yard for further preparation. The urine, being the most valuable part of the manure, should not be lost; this, as well as water, will be needed to prevent the heap rising above 80°. Below this temperature fermentation will be slow and safe; instead of carbonic acid being formed and combining with ammonia, decomposition stops and organic acids (ulmic and humic acids) are formed, which form ulmate and humate of ammonia and compounds of potash and soda; these are soluble but not volatile. Great care, however, is needed,

or the temperature will rise too high; in fact, it can only be kept right after it is thrown into a heap by watchfulness and a liberal supply of moisture.

Fermentation may be rapid or the reverse according to the treatment the heap receives. The lighter the manure is thrown together the more freely air enters and promotes rapid fermentation. The more compact the heap is made the slower the fermentation, consequent on a free access of oxygen being largely excluded from the manure. The firmer and moister the heap the less likely is it to become too hot. It must not, however, be too moist or too firm, or else fermentation will not take place. Once the material is sufficiently fermented to place on the land and it is not needed for a time, the heap should be so rounded up at the top that heavy rains will not wash away the essence of the manure. Very often, I am afraid, nearly one-half of the valuable part of the manure is carried away by heavy rains, the nitrates being soluble in decayed material. If a good tank is provided, and the heap protected from as much rain as possible, and the contents of the tank poured over the manure before it is wheeled on to the land, a great loss will not take place. It is wise when the liquid has been returned to the heap to spread it at once, so that the essence of the manure may be evenly distributed on the land.

In large gardens, where there are quantities of short grass from the mowings of lawns and refuse from vegetable quarters, the decomposition of the litter from the stable is more easily effected. Even Cabbage stems, and the straw of Peas and Beans, may be thrown into the heap to decay. The last is rather inconvenient, but not to be despised, especially where the land is heavy, and besides the straw is rich in phosphoric acid. This vegetable refuse soon decomposes, if carefully mixed through the litter as the building of the heap proceeds. It is not always convenient to dig vegetable refuse of this nature into the land, but there is not so much actual waste in the growth of many crops when the refuse matter is carefully mixed with the manure and returned to the land. The stems of Cabbage, Cauliflowers, and other vegetables of a like nature are best thrown out when all the vegetable matter has been decomposed. There is then very little left but woody fibre, and we do not care to return that to the soil. They are generally burnt after leaving the manure heap with prunings of various kinds.

Where a quantity of manure is needed that is rich in nitrate of potash wood ashes should be freely mixed with such a manure heap as we have described. The wood ashes supply carbonate of potash, which unites with the nitrogenous matter of the manure, and thus forms nitrate of potash. The same result is effected when kainit salts are broken and mixed with manure, say a layer of one and then the other. These salts contain "potassic and magnesian sulphates, calcic sulphate and magnesian chloride." Through the decomposition of the manure the sulphate of potash is converted into nitrate of potash.

Gypsum (sulphate of lime) mixed with farmyard manure is perhaps more effective than when used alone. But this is not all, for it possesses the power of fixing ammonia; what might pass off in a volatile form as carbonate of ammonia would be converted into sulphate of ammonia. Gypsum has not only the power of fixing ammonia, but of absorbing it from the atmosphere. It might advantageously be used for spreading on stable floors.

When manure has been thoroughly decomposed it is then that protection from rain is the most needed. In this state plant food is in its most soluble form, and a good deal of it is carried away by heavy rains. It is a good plan to throw the manure into a ridge-shaped heap, and make the surface moderately smooth, so that the water will pass away readily. If time can be found, and the manure cannot be used for some time, we prefer to mix it with a quantity of fresh litter from the stable. This strawy material absorbs the soluble matter, and while it is protected from loss it also aids in the decomposition of the litter which gives so much trouble. The heap should be soiled over to protect it from rain.

For heavy land strawy material is valuable, as it opens up and renders porous the soil, so that air, water, and warmth can enter freely.

The quantity of farmyard manure varies widely according to the nature of the animals and the food supplied to them. If we take a ton of good stable manure it is only estimated to contain from "9 to 15 lbs. of nitrogen, the same of potash, and 4 to 9 lbs. of phosphoric acid," that is 22 to 48 lbs. of plant food. Valuable crops can be obtained by the application of refuse of this nature, but it is by using natural and chemical manures in conjunction that the best results follow. We advise a liberal dressing of stable manure in the usual way, and 3 cwts. per acre of nitrate of soda and superphosphate, using two of the latter to one of the former. These may be mixed and applied just as the crop commences growth, being sown on the surface during showery weather. The nitrate of soda may be reserved until the crop is in full growth, while the superphosphate may be sown on the surface just before the crop is planted. It is advisable to hold back the nitrate of soda because it is so soluble that some of it might be washed through the soil and lost unless the crop is in a growing condition and could take it up at once.

The superphosphate can be obtained ready prepared, and may consist of such minerals as coprolites or slag, the refuse of iron furnaces, treated with sulphuric acid; a good deal of superphosphate is made from these materials. We prefer superphosphate made from bones after they have been ground to a powder. A ton of this should be treated with 50 gallons of sulphuric acid and 100 gallons of water. The bones should be moistened by half the water, the other half being used to dilute the sulphuric acid. The whole should be well mixed, and in a short time the material will be dry enough for sowing. When a smaller quantity is needed it can be made by using the materials advised in the right proportion.—WM. BARDNEY.

HARDY PERENNIAL HERBACEOUS PLANTS.

HARDY perennial herbaceous plants are not so much grown now as they were some forty years ago. At that time no garden was considered complete without a good collection, and there were few places which had not herbaceous grounds or borders entirely devoted to them. But fashion in gardening, as in most things, changes, and since then perennial herbaceous plants have been discarded in a general way to make room for the more gaudy half-hardy bedding plants which have to be propagated annually, and protected under glass for more than six months of the year, entailing a great amount of labour and expense for a brief display of colour for a few weeks during July, August, and September.

Mr. F. L. Olmsted, the distinguished American landscape gardener, writing in one of the gardening papers last month on "English Gardens," says, "Since my last visit to England there has been a decided abatement of the bedding out nuisance, and of all the garish and childish fashions that came in with it. The gardeners and others with whom I have talked have been generally conceding—some with evident regret—that it was going out of fashion. Any who think with it their occupation will be gone had better come quickly to America, where all the beauty that I have been aiming to provide on various grounds is wholly put out of countenance by it. There has never been a square yard of bedding out on any ground under my direction."

I am quite in sympathy with what Mr. F. L. Olmsted has written on the subject. That there has been too much bedding-out in the gardens of this country no one will deny; and, to say the least of it, carpet bedding, to my mind, is childish, garish in the extreme, and I have never failed, when an opportunity occurred, to express my disapproval of it verbally and in writing. I would not, however, advocate doing away with the bedding-out system altogether. A little of it in its place is very good, but there has been too much of it in the past in most places, to the detriment of hardy perennial plants, which, I am glad to say, are coming more to the front now. There seems to be some misunderstanding amongst gardeners and others as to the definition of herbaceous plants. We have seen Roses, Hydrangeas, shrubby Spiræas, and other ligneous plants shown in competition at flower shows as herbaceous plants, and passed as such by judges who should have known better. Now, if I understand properly, herbaceous plants are those that have no woody fibre, and whose stems perish annually after flowering. The plants may be annual, biennial, or perennial; the foliage deciduous or evergreen; and the roots fibrous, tuberous, or bulbous, according to the natural order to which they belong. Anyone with even a slight knowledge of botany should be able to distinguish the difference between plants with woody fibre and those composed of herbage.

Perennial herbaceous plants are easily propagated and cultivated. They may be increased by seeds, cuttings, and division of the

roots, and grown in ordinary garden mould (with the exception of some Alpine and bog plants, that require peat soil) in borders by themselves, or in front of shrubberies and in beds on the lawn. Some of the large growing genera and species, with bold elegant foliage, have a noble appearance when planted in clumps in conspicuous places. *Anemone japonica*, and many other kinds with strong creeping roots, should be planted in beds by themselves, as they soon spread and interfere with the growth of their neighbours. The plants should be lifted occasionally, divided, trimmed, and replanted. When doing this the ground must be deeply dug and well manured. Tall growing varieties ought to be properly staked and tied in good time to prevent them from being injured by storms. Some gardeners recommend cutting the tops off the plants (of some varieties) after they have grown a foot or more, in order to make them dwarf, and later in flowering. I have never practised this method, but I believe it does very well.

I have been in places where they went in more for a large collection than a selection of the best flowering varieties. When this is the case, and the plants are properly labelled, and planted in groups according to their class and order, it reminds one of a public garden for teaching students, and, as a matter of fact, a great many of the plants, which are interesting from a botanical point of view, have no decorative effect in themselves, and their flowers, when cut, are of little service for the embellishment of rooms. Whereas if a good selection were made, and properly attended to, plants with red, white, yellow, blue, purple, and other colours, may be had in flower for at least ten months in the year. I do not wish to make a catalogue, but perhaps I should by way of a finish, name a few of the most important genera and species, and their time of flowering.

Beginning with the year, there are few plants in bloom during January, but the following flower in February and March:—*Hepatica triloba* and its varieties, *Arabis rosea*, *A. alba* and many others, *Helleborus lividus* and *H. niger*, *Tussilago fragrans* (a plant growing wild in great abundance at Llandouch Church, and on the embankment of the Rhimney Railway at Cardiff), *Potentilla alba* and other varieties, *Sanguinaria canadensis*, *Viola odorata*, *Anemone ranunculoides*, *A. apennina*, *Adonis vernalis*, *Primula Auricula*, and others.

April.—Several species of *Phloxes*, *Aquilegia canadensis*, *Dodecatheon Meadia*, *Arabis alpina*, and others. Several *Saxifrages*, *Thalictrum anemonoides*, *Alyssum saxatile*, *Doronicum austriacum*, and others, *Anemone pratensis* and *pulsatilla*, several of the *Iris* family, *Polemonium reptans*, *Pulmonaria virginica*, and other species. These are a few of the many beautiful plants that flower during this month, not to mention the native plants, some of which are charming, such as *Chrysosplenium alternifolium*, and many others I could name.

May.—*Anemone hortensis* and other varieties, *Aquilegias*, several *Dianthus*, *Geums*, *Phloxes*, *Geraniums*, *Veronicas*, *Armerias*, *Pæonia tenuifolia*, and several other varieties, *Polygonums*, *Symphytums*, *Centranthus angustifolius*, *medius*, and *ruber*, *Hesperis matronalis* and its varieties, *Astragalus*, several varieties, *Dictamnus rubra* and *fraxinella*, *Phyteuma spicatum*, *Lupinus*, several *Thalictrums*, many *Monarda fistulosa*, and hundreds of other genera and species of different colours, too tedious to name in a paper like this.

July, August, and September are rich in herbaceous plants, but it would be too monotonous to give even a small list of them here. I think I have said enough to show that there is no lack of useful hardy herbaceous plants to keep our grounds and borders gay during the greater part of the year. To me they are more interesting, and more useful for cutting flowers from than many of the plants that are bedded out, and they do not entail the labour and expense in potting and protecting them during the winter and spring months that the bedding out plants do.—A. PETTIGREW.—(Read at a meeting of the Cardiff Gardeners' Improvement Association.)

FUNCTIONS (AND WEIGHT) OF VINE LEAVES.

VINE culture has ever been a warm subject for discussion, and has lost none of its charms, especially to young men. Many like those here will be showing their practical interest in this discussion by no sooner having read the articles than they are out, lamp in hand, picking leaves for comparison with the weights and measures given in the *Journal*. From a handful of *Hamburgh* leaves five were picked weighing 3½ ozs., and measuring from 12 to 14½ inches across. These are from rods nineteen years old that have carried on an average 30 lbs. of fruit. We began cutting in the middle of August, so that the leaves are fast maturing for parting company with the wood, changing from the deep green to the brown and yellow which reminds of the passing season with bright prospects for the future.

Leaves bring to mind a visit I had from some gardeners recently. When going through the vineries they asked if they were Cabbage or Rhubarb leaves we grew, and if we tied the bunches on to the bottom of the rods. I confess I felt a little flattered. My conceit, however, was soon taken out when comparison was made with my neighbour's, Mr. Osman, then gardener at Wroxhall Abbey; while ours measured 15 inches and over, his surpassed them in every way; and for bunches, well, fit companions for Mr. Dunkin's 6lb. one.

I am glad to learn Mr. Iggulden is to have no part in hurting other men's feelings with this discussion, and all will be at one with him in being sorry that any should have been annoyed before he gave the assurance that he will "stick to his own experience." This is as it ought to be in a discussion of this sort, and not many have had such varied practical experience as Mr. Iggulden, and fewer still can impart it with such interesting and instructive effect. Anyone reading Mr. Iggulden's article at page 345, and scanning between the lines, must conclude he has little faith in his opponents' statements or belief in his authority and information, granting Mr. Dunkin a roving commission, at the same time accusing him of "drawing wrong conclusions—beating about the bush—not competent to give an opinion until he has put into practice what he preaches." This is nothing less than charging Mr. Dunkin with plagiarism in its worst form—viz., taking credit for the product of other men's brains. Castle Gardens are not in a corner, and Mr. Dunkin will expect Mr. Iggulden to call next month when he is passing and see his Vines, "so vastly improved during the last few seasons."—WARWICK.

I AM not surprised to see that "J. J. C." is anxious to know something more about the Vines in the gardens here, which are now carrying such heavy crops of well-coloured Grapes. The weight of crop given on page 346 is now hanging on single rods. True, these rods are somewhat longer than is usually the case, being 25 feet. Still, there is no gainsaying the fact that the crop is enormous. I must also point out that the varieties bearing this weight are Gros Colman, Black Alicante, and Gros Guillaume, which are growing in the same range as the Black Hamburgs, from which the leaves sent to Fleet Street were cut. Every rod of this variety have also carried a heavy crop this year, but as the greater part of the bunches were cut when I gathered the leaves, there was no means of judging, with anything like accuracy, the weight of crop they carried. No fear need be entertained about the Vines "not lasting" under the treatment they are receiving, so long as they continue to produce leaves and wood such as they now possess. The whole question of their treatment I will deal with in due time. I only refrain from doing so now in order to prevent the principal points in the discussion on "The Functions (and Weight) of Vine Leaves" from being obscured by side issues. In the meantime I am pleased to have the support of both "J. J. C." and Mr. G. Garner, who believe in the benefits to be derived from a moderate extension of lateral growth. The latter, I know—from the high quality of the produce he stages at southern shows—to be an excellent grower; the former I can only identify in connection with his views on "Setting Peaches," which appeared in the *Journal* some time ago, and whose recent experience in that matter might at some future time prove interesting.—H. DUNKIN.

MARGARET CARNATIONS AND PINKS.

YOUR correspondent, Mr. S. Arnott, in the *Journal of Horticulture* (page 351) of the 20th ult., has conferred a favour by the information he has given as to their introduction from Italy and in reference to the various sorts, and for the future I shall adopt Mr. Arnott's suggestion, and call them "Margaret varieties."

A letter from Dr. Hogg gives further information as to this new race of the *Dianthus* family, and writes me that "These Marguerite Pinks (they are not Carnations) are very pretty, and appear to me to be a cross with the Indian Pink, D. Heddewigi, and garden Pink, but they are in no sense a Carnation." I notice also that in Mr. Robert Sydenham's seed list for this year, under the heading of Carnation Margarita, says, "This is a very lovely new strain, but should more properly be called Margarita Pinks;" and on looking over a bed of them since I feel that Dr. Hogg is correct in his opinion. But in the Sparkhill hybrids from these Margarets, and a fine exhibition bizarre Carnation, we have the Carnation in habit, foliage, growth, and flowers, losing the Margaret character excepting in freedom of blooming and their being got into strong flowering plants from seed in eight months. I have again seen the Sparkhill plants a few days ago still in good bloom, with more buds to open, symmetrical in growth, in 5-inch pots, and flowers as large and well formed as a good Carnation, but still retaining the serrated edge of the Margarets; but in the hands of

our florists this defect in the eyes of an old florist will soon be lost. This new type is a "coming" flower, with a great future before it.—W. DEAN.

[It would appear from the foregoing that we shall soon have what may be termed (as distinguishing them from florists' varieties) both Margaret Carnations and Margaret Pinks that may be raised from seed and flowered the same season in a similar manner to Indian Pinks; and for decorative purposes we are not so emphatic as Mr. Dean is that the serrated edge is a defect. Our correspondent is a true florist and looks forward for a "florists'" type of the Margaret Carnations, and it is not improbable that his hope will be realised. The point we have in view is this—namely, that the plants we have grown this year, and seen grown by others, from seed sold as Marguerite Carnations are not Carnations, but Pinks both in habit, foliage, flowers, and perfume, and the term Carnation as applied to them is a misnomer. We shall hope to grow the Sparkhill hybrids in due time, which, according to Mr. Dean, are English Margaret Carnations.]

CIMICIFUGA SPICATA.

THIS plant (fig. 53) is similar to *C. racemosa* in general form, the flower stems being several feet in height, and bearing the small white



FIG. 53.—CIMICIFUGA SPICATA.

flowers closely packed on lateral and terminal branches. Being late in flowering, these Cimicifugas form conspicuous objects in the borders during August and early in September, and might advantageously receive the attention of hardy flower lovers. Ordinary garden soils suit them very well, and where large clumps have been formed the plants are really valuable additions to the list of effective hardy plants.

EDUCATION IN GARDENING.

(SILVER MEDAL ESSAY, continued from page 372.)

BOOKS TO CONSULT.

THERE is at all times an element of difficulty in making a selection of books generally applicable to all cases. It would be to the mutual advantage of both gardeners and employers if the latter

could see their way to provide a suitable and general library as part of their garden establishment, as some do. If space allowed much might be advanced in favour of this proposition. Many "Gardeners' Improvement Societies" possess a good selection of works of reference which are of great service in tiding the gardener over such times until he possesses money or opportunity to purchase them. The advantage of absolute ownership are incalculable, and it behoves every young gardener to make strenuous efforts to secure a small library of his own, so selected that points of culture, questions of nomenclature, classification, habitat, and general educational work could be referred to, and points cleared up at any or all times by having the necessary authorities at hand. The self-denial exercised in procuring them, and the pleasant associations and reminiscences connected with consulting them as everyday assistants to knowledge, bring the student in the course of time to look upon them as his best friends and most cherished possessions.

In the following selection many valuable educational works, on account of their cost, are not specially included. Of course, to the specialist they are a matter of primary importance, and it would be his bounden duty to make every effort to secure them. As examples we may mention the "Orchid Monographs," by Veitch; the best works on landscape gardening by authorities like Loudon, Kemp, Major, and Milner, and the advanced books on botany by Sachs, Strasburger, Goebel, Vines, &c. Individual taste, inclination, necessity, and money at command will guide the student in these matters. The selection given fairly covers the practice and theory of gardening, and is based on such lines of economy as is consistent with the wide range of subjects necessary for the gardener to have some knowledge of, if he desires to be stamped with the "hall mark" of proficiency in his calling. The gardeners' rate of wages and education, as a matter of necessity, must partake of a progressive character, so his books must be procured as opportunities permit, of course in their proper sequence. Some of the valuable high-priced works can be had in a serial form, but when purchased in a complete form the buyer should insist upon the usual discount off cash payment. The second-hand bookseller's catalogue will often repay perusal, but in this age of rapid advancement care should be taken that all books purchased of a scientific and standard character are up to date, by obtaining the latest revised editions, or those last published by the best authorities on the subject they treat upon.

LIST OF BOOKS.

Class Books.—"Physiography," J. Thornton, M.A.; "Chemistry," Roscoe; "Botany," Henfrey's, 4th edition, revised by Masters and Bennett.

Practical Works.—"Gardeners' Assistant," R. Thompson, ed. 1881; "Dictionary of Gardening," Nicholson (Kew); "Vines and Vine Culture," Barron (Chiswick); "Fruit Culture under Glass," D. Thompson, 2nd ed.; "Fruit Manual," Hogg; "The Fruit Growers' Guide" (now being issued), Wright; "Hardy Flowers and Alpine Plants," Sutherland; "Rose Garden," Paul; "Orchid Manual," 6th ed., Williams; "Elements of Agricultural Chemistry," Johnson, 14th ed.; "A Treatise on Manures," Griffiths; "Agriculture in Some Relations to Chemistry," Storer; "Stove and Greenhouse Plants," Baines; "Diseases of Garden and Field Crops," W. G. Smith; "Diseases of Plants," Marshall Ward; "Injurious Insects," Ormerod; "Horticultural Buildings," Fawkes; "Hot-water Heating," Fawkes; "Colour," Church.

Beyond this list there are plenty of books on special subjects which under certain circumstances the gardener may find to his advantage to purchase—viz., "Mushroom Culture," Wright; "Fruit Culture for Cottagers" (prize essay), Wright; "Tomato," Iggulden; "Chrysanthemums and their Culture," Molyneux; "Coniferæ," Veitch; "Forestry," Brown; "Narcissus," Burbidge and Baker.

The three standard works on gardening by Thompson, Anderson, and McIntosh are each in their way valuable works, though somewhat different in scope, but as it is improbable the young gardener will be able to buy them all I have placed Thompson's on the list, being lately revised and covering most ground, as suiting the under gardener's purse and requirements. Anderson treats more fully than the latter on stove and greenhouse plants, Orchids, landscape gardening, and ornamental trees. Under certain circumstances it might be worth consideration to secure it later, if opportunity offered.

GENERAL ADVANTAGES.

The course of study and education here laid down, looked at from the standpoint of the present-day gardener, will probably appear to be an unnecessarily formidable one, but, as we have already shown, the educational facilities now at command put an entirely new face on the educational side of the question. What

formerly passed for botanical knowledge, and was either condemned or ignored by writers on the gardeners' education question, is widely different from the present-day physiological botany, and what it involves. Formerly it was the height of ambition of the so-called botanist to collect and dry a collection of plants, and learn by rote the catalogue of uninteresting names. To-day it is the study of cause and effect in Nature's workshop, and the gardener who possesses this kind of knowledge must be all the better for drawing it direct from the "fountain head." In cases of emergency it will lift him superior to rule of thumb, and questionable or illogical practice; in fact, it will enable him to formulate new and sound practice, directing him straight to the end in view, and teach him to avoid the mistakes begotten of ignorance and prejudice. Neither can the advantages accruing be summed up or measured by the direct beneficial results upon the gardener's practical work. "Bacon" says, "A man is but what he knoweth. Shall we not as well discern the riches of Nature's 'warehouse' as the benefit of her shop?"

The gardener of the next generation will be poor indeed if he cannot find these riches; but to do so he must also remember that youth and early manhood will need to be wisely spent. Let him cheerfully accept and act up to his duties, and he will find the time spent to this end will also be his most remunerative investment. Youth is thought to be the time for pleasure, and no doubt much may be advanced in favour of reasonable recreation; but pleasure is a slippery path to follow, and requires a strong mind to avoid carrying it to excess. Before a lad is launched on the career of gardening he should be shown the stern realities of the gardener's life as "a contra" to the flowery side from which youth and the inexperienced are apt to view it. He must understand that he will need to be both constitutionally and educationally fitted for the calling, and be prepared to fight keenly in what will simply be a struggle for existence. The present keen competition amongst gardeners will be intensified in the future, particularly so in the higher branches of the profession, and better choose some other path in life than be stranded or drift into the common hack and drudge wherever he may be employed, or become the puppet instead of gardener in the true sense to the unsympathetic, and it may be penurious employer, whose forte is paying the least possible price for services rendered.

FRUIT AT SAWBRIDGEWORTH.

ORCHARD HOUSE FRUIT.

MANY years have passed since Messrs. Thos. Rivers, J. R. Pearson, G. Abbey, "D., Deal," W. Keane and others waged a brisk pen-battle about orchard-house fruit in the columns of the *Journal of Horticulture*. The places of the two first-named, who valiantly supported the pot culture of fruit trees, have been taken by a younger generation, but the work they commenced has been carried on, and the ancestral home of the pot tree at Sawbridgeworth shelters it still. When in looking over the houses there recently Mr. T. Francis Rivers pointed out to me the original tree of Lord Napier Nectarine, now forty years old, but still healthy and vigorous, together with a host of younger specimens, I was tempted to dip back into the past by turning over the *Journal* pages of 1864 and so realise how the faith of those days has been justified. Those who have visited the Earl's Court exhibitions will have been struck by the splendid examples of Apples, Pears, and Peaches exhibited by the Sawbridgeworth firm, and even with most of the fruit gathered and preparations for potting in full swing in the nursery the trees are a wonderfully impressive sight.

PEACHES AND NECTARINES.

I have referred to the old tree of Lord Napier. Its introduction was brought about by one of those fortunate chances that crop up once in a generation. Mr. Rivers happened to see the last fruit hanging just before it would have been removed, all the rest having gone. He was struck by its distinct appearance, and with an acumen that doubtless tended materially to his ultimate advantage possessed himself of the variety. A day later and the famous Nectarine would probably not be with us as it is now, one of the most valuable, if not the most valuable, of its class. The old tree presents quite a venerable appearance with its great gnarled trunk, but its head is fresh with the brightness of youth. It is doubtless a cherished object to its owner, and certainly it is one of great interest to his visitors. The trees, whether young or old, are a wonderful lesson of good management. The wood is stout and vigorous, the foliage ample and richly coloured, and next year's fruiting growths studded with triple buds. Yet the treatment the trees receive is almost startling to those who are altogether unprepared for the course of procedure pursued. When repotting time comes, and it is now at hand, no gentle shaking suffices to free them from the pots, for top-dressings have been heaped up above the rim and are permeated with such a mass of feeders that these have to be torn away before the plants can be freed. They are literally raked out, for a formidable toothed implement is vigorously employed removing soil and fibrelets before plant and pot can be induced to part company. It might be thought that a dangerous check would be imparted by the wholesale sacrifice of roots, but the

plants grow magnificently and yield noble crops year by year. The explanation is that the root hairs are annual and die with the leaves. When their work is done they may be torn away with the same impunity that the foliage may be brushed off after its maturity has been reached. The thick fibres are preserved, and from them a fresh wig of root hairs is pushed in due course. Many do not recognise the limited character of their functions. Though important they are but temporary. When leaves become diseased or are attacked by insects and eventually die some root hairs perish: the same rule tells us that when in the fulness of time the foliage has imparted its matured and elaborated juices to the stem and falls to the ground the balancing agent below ground finishes its duty.

The fruitfulness of these trees is remarkable. They do not produce a great mass of puny blossoms, but large substantial flowers that set perfect fruit. One tree about 10 feet high has borne sixty, and made robust, vigorous, and healthy growth, now ripe and bristling with bold triple buds. Year after year the trees go back into the same size of pot, the balls being reduced as indicated, and the new compost packed firmly around them. Then new root hairs push, and fresh leaves form, the tree, as it were, stretching an arm above ground and an arm below in search of air and food, the one hidden from the other, but both acting in the closest concert nevertheless. What one gives the other elaborates, and so perfect correlation is maintained. It may give some idea of the magnitude of the scale on which pot fruit trees are grown in Messrs. Rivers' nursery to state that the floor of one great house is occupied with a long mound of soil like a huge Potato "pie;" probably there are 100 tons of it, and all is for the pot trees. Kiln dust and horse droppings are the manurial agents chiefly relied on.

APPLES AND PEARS.

These were more striking in one respect than the Peaches and Nectarines when my visit was paid, inasmuch as many were carrying splendid crops of fruit. A tree of Blenheim Orange in a 15-inch pot bore thirty-two superb fruits, beautifully moulded, clear and delicate in texture. It formed a splendid picture. Trees of the charming looking variety, Bijou, in 8-inch pots had seven and eight of the bright red fruits, which, besides being of such pleasing appearance, possess the further merits of good flavour and keeping qualities. Schoolmaster, a seedling from Northern Spy, and which keeps until May, was bearing a number of beautiful bright red fruits. King of Tompkins County and Bismarck were also laden with magnificent examples, and the same may be said of the Pears Pitmaston Duchess, Doyenné du Comice, and Triomphe de Jodoigne, to mention three only. Pitmaston, in a 10-inch pot, was carrying eight noble fruits, and the tree was a very striking object, while Triomphe de Jodoigne was heavily weighted. The way in which the trees develop superb fruits while still making strong and healthy growth is a revelation. But after all the one is perhaps in some degree a consequence of the other. Trees cleared of their fruit are plunged out of doors and will be housed in spring. They are well furnished with fruit buds. The one Cherry in fruit was Guigne de Winckler, and it exhibited the same characteristics. It was carrying a heavy crop of its bright red fruits, which had been hanging ready for eating a month. They were juicy and refreshing, and a dish would form a welcome change in the dessert at this season of the year. In one corner of a large house a huge tree of Royal George Peach forty years old is growing contentedly without any special border, the ground above the roots being quite hard, and all the food it receives are the washings of liquid manure supplied to the pot plants.

PLUMS.

"There has been no profit in Apples this year," said a great Kentish grower to me the other day. "Rivers' Prolific Plum is the thing that has paid us best." There are many acres of it and other varieties in the Sawbridgeworth nurseries. Some are planted with Apples and Black Currants for fruiting, the combination being a decidedly paying one, and in other quarters are strong, healthy trees awaiting orders. The Early Prolific sells in thousands, and so does Monarch, which is also a market Plum of great excellence. The former has an advantage over other varieties in the fact of the early clearance of the crop, which is off in August, affording the tree abundance of time to ripen its growth, and thus it is a constant bearer. There is another Plum on the way, this time a late one. The last fruit was gathered on October 19th. It is a large purple variety, and will probably prove valuable in further prolonging the Plum season, which, considering the many uses of the fruit, can hardly be made too long. Plums do remarkably well in the clayey loam that prevails in the nursery, and Mr. Rivers takes care that a due modicum of lime is provided, in which he is a great believer for Apples and Pears as well as stone fruits.

A GOOD APPLE AND A GOOD PEAR.

The Apple is Rivers' Codlin, the Pear Conference. That section of the fruit-growing public present at the Drill Hall a month ago will have had an opportunity of becoming acquainted with the new Apple, for it was exhibited and certificated there. Should its cropping qualities prove to be of the right sort its future is assured. The Kentish grower above referred to told me that the best paying Apple this season has been Lord Suffield. When the two meet in the market I think that his lordship will have to take second place. There is a certain resemblance between the fruits, although Mr. Rivers says that his Codlin, which is a seedling from American Mother, has no more than a general kinship to the other, but the Sawbridgeworth variety is embellished with a number of rosy

streaks that add much to its attractiveness, and has a powerful aroma. It is unexceptionable when cooked, and Mr. Barron, I understand, can think of no variety to place before it in flavour. Market growers would do well to look after Rivers' Codlin. The tree is a strong and upright grower, and the fruit of fine texture. Conference has had more time to prove its value. This fine Pear was certificated a few years ago. It is in season at the present time, and is of very good quality. The tree forms a natural pyramid, and even on the Pear stock bears early and continuously. These two form a pair that should be added to every garden.

GRAPES.

The Vines at Sawbridgeworth are in splendid health, and Grapes are undoubtedly finely grown, although the greater part of the crop has been cleared. Gros Maroc and Alicante are still carrying excellent bunches, the latter being beautiful examples of ripeness and colour, coated with a delicate bloom. Two newer varieties are also in fruit. One, named St. Antonio, has oval-shaped berries of a burnished black hue, and has very firm flesh of excellent flavour. Mr. Rivers tells me it will hang until May. This should be well worth trial. The other, also a black, rejoices in the name of Prunelas. It will ripen in the Hamburgh house, and is of admirable quality, but the bunches are somewhat too loose at present, and an attempt will be made to improve it in that respect.

ORANGES AND CRABS.

Not in many places do we meet with so fine a house of Oranges as at Sawbridgeworth. A good-sized structure is full of healthy plants with fruit in various stages of ripening. They present a really beautiful appearance, and as ornamental objects alone are very striking. The fruit will hang six months. The chief varieties grown are Silver, Sustain, Long, Maltese Blood, and St. Michael's. The blossom is full of interest, and few fail to appreciate its spicy fragrance. Where the necessary winter warmth can be provided a few Oranges might well be grown. They are easily managed, and after the flowering stage is reached require no pruning. Two of the most effective plants in the open ground are the Yellow and Purple fruited Crabs. The former is roped with fruit like a Damson, the branches drooping almost to the ground, and it is extremely beautiful. The blossom is very sweet, but the same cannot be said of the fruit. The purple is more upright in growth, and the fruit is agreeable in flavour. In shrubby borders such trees would be very valuable at this period of the year, and where fruit trees are planted for effect these Crabs should be represented amongst them.

THE NURSERY STOCK.

The Sawbridgeworth nurseries are extensive, but additions are still being made to them, and this bespeaks an increasing demand for general nursery stock. Apples, Pears, Plums, Cherries, Gooseberries, Currants, and Raspberries are cultivated on an enormous scale for supplying orders. All the popular varieties are represented, and the quality of the trees and bushes leaves nothing to be desired. They have made strong, robust growth, and it is difficult to imagine their failing to give satisfaction. There is the mark of good culture about everything, both under glass and in the open air, and that is the simple explanation of how a high reputation has been won and spread.—W. P. W.



ROSES AT CHRISTMAS.

WITH suitable attention it is possible to secure a fair display of Roses during the closing month of the year, a time when they are particularly welcome. A little foresight during the summer months, combined with proper treatment and a judicious selection of varieties, will do wonders towards enlivening our greenhouses with handsome Rose blooms. But plants for the purpose mentioned will by this time be well on their way to their period of blooming, and so I pass to the next succession of Roses—namely, the first batch intended to flower at Christmas and during the first month of the year. For this purpose they should have been already pruned and now beginning to push into growth. To get them to break strongly abundance of air should be admitted by day and night. They are not susceptible to injury by frost until they have grown about half an inch. An occasional syringing will soften the dormant eyes and aid them to start vigorously. Little water at the root is required at this stage, and a temperature of 45° is ample, and any attempt to hurry them is likely to be fatal to success. As they increase in strength and vigour the temperature can be gradually increased until a maximum of 65° is reached, and more water given according to requirements. Stimulants should be withheld until the buds are seen to form, after which it will be found beneficial if given in weak doses, to be afterwards increased in strength. As the buds expand air should be admitted more freely. A uniform temperature with careful ventilation are the best checks to mildew, although as a precaution the pipes may be brushed over with flowers of sulphur mixed to the consistency of paint. Roses can be forced successfully if planted in borders, but for very early work they are best grown in

pots. It is obvious that they are more under the control of the grower and can be more readily examined if anything appears to be wrong with the roots. Again, it is sometimes advantageous to change their position in the house, and watering can be carried out with greater ease and certainty.—ENFIELDIAN.

ROSES FOR EARLY FORCING.

THERE are not many varieties of Rose that will give an adequate return for the trouble and care which early forcing involves. Among Hybrid Perpetuals I should say Général Jacqueminot is the most suitable for early work, but these do not lend themselves very readily for this purpose. The Teas and the Hybrid Teas furnish us with the best varieties for early flowering, but the number available is not large, although they include among them some of the best known Roses we have. Of Teas proper the best one for early work, whether planted out or in pots, is Niphetos. The pure colour and floriferousness of this variety make it indispensable where early Roses are required. Anna Ollivier follows on in point of merit. Souvenir d'un Ami, Safrano, and Isabella Sprunt are good when bright yellow Roses are in requisition.

Of the Hybrid Tea class Lady Mary Fitzwilliam ranks among the very best of early Roses, although it is seldom included among those for flowering at Christmas. It requires some management to produce it in a fit condition for the purpose, and it does not break very freely, but the cultivator can rely as a rule upon obtaining two flowers to every pruned shoot and three occasionally, very few coming blind. This variety would probably be popular as an early Rose if it possessed a more vigorous habit of growth. This sort concludes our list of early flowering Roses with the exception of Maréchal Niel, with which I hope to deal in a future issue.—ENFIELDIAN.

NOTES ON SOME OF THE NEWER ROSES.

I CAN offer a few notes on some of the newer Roses which may be useful to those about to purchase, for, though I have been unable to visit any of the Rose nurseries this season, or even to attend the N.R.S. Show at Chester, I have grown several and seen blooms of others.

HYBRID PERPETUALS.

AUGUSTINE GUINOISSEAU (Guinoisseau, 1889) is called a white La France, and certainly seems to be one. Now, in "E. M.'s" analysis (for which I must take the opportunity of thanking him and of generally agreeing with his remarks upon the different varieties), we find La France taking the second place on the list of H.P.'s, and might therefore expect a white La France to be also a fine show Rose; but it does not seem to have that character at present, and I had no blooms with pretensions to show form. Still, La France itself does not do very well with me, and another year we may see its white cousin taking higher rank.

CATHARINE.—The late Rev. H. T. Frere had a light coloured sport from Comtesse d'Oxford, which he thus named, and exhibited a few years ago for the gold medal. They were very poor specimens, shown in wretched condition, but I begged a plant or two in memory of him after his death, and this year succeeded in getting a representative bloom. It is quite good, but not distinct, being neither more nor less than Pride of Waltham.

GUSTAVE PIGANEAU (Pernet et Ducher, 1889) has deservedly attained such popularity as hardly to require further notice as a new Rose. As "E. M." says, its growth as a cut-back is the principal doubt, and I am bound to say that I fear it will be found a poor grower.

JEANNIE DICKSON (Dickson, 1890) is a Rose of first-class quality, and, as far as I have seen at present, I consider it the best of the Irish H.P.'s.

MARCHIONESS OF DUFFERIN (Dickson, 1891) is of grand size and growth, but not, I think, of such fine form as the last named. My blooms were, however, considerably spoiled by rain, and further trial will, I hope, show this variety to better advantage.

MARCHIONESS OF LONDONDERRY (Dickson, not in commerce).—Messrs. Dickson were kind enough to send me a bloom of this very large Rose. I heartily hope it will prove to be all that Mr. Graham and "J. B." anticipate. I was abundantly satisfied as to its size, fulness and fragrance, but not as to other necessary qualities for a good Rose. It is something the colour of Devonensis, ivory white, is not quite so showy as paper white and perhaps more likely to look dingy, but on the other hand possibly better able to stand a little rain.

MARGARET DICKSON (Dickson, 1891).—I had three dozen strong maidens on Briar cuttings of this Rose, and, judging from the examples shown by the raisers, thought I was going to have a real good thing. I do not know when I have been so disappointed; the growth was very strong, and most of the plants flowered, but I had not a single bloom fit to show. As exhibited, Margaret Dickson resembled a fine Merveille de Lyon with its one great weak point—the centre abundantly filled with a symmetrical point. My blooms utterly failed in this particular; they were even more hollow than Merveille de Lyon itself, smaller in size and shorter in petal, though on strong stout healthy stems 4 and 5 feet high. I am unable to account for this, nor can Messrs. Dickson, who have continued to show it in fine form. I hear that there have been some complaints of the plants not blooming, but this is sure to be the case when a Rose much in demand has been propagated from unbloomed shoots. Nearly all my plants bloomed, so the disappointment was the greater. However, one must give a new Rose time; many suffer at first

from over-propagation if much esteemed, and I have not lost my faith in Margaret Dickson.

MRS. ARTHUR WILSON (Swales).—This is a cross between Gabriel Luizet and Mdle. Eugénie Verdier, with the wood of the latter and something of the flower of the former. I had a few good plants, but was unlucky in not getting a representative bloom. I fear it is no advance upon existing varieties.

MRS. PAUL (Paul & Son, 1891).—This Rose quite answered my expectations. A fair proportion of the blooms come with a well defined centre, showing up grandly against the stout, broad, smooth outer petals, and making exhibition flowers of fine form, though rather patchy in colour. But it does not seem to me to be free-flowering or a good autumnal. My second growths have shown no sign of buds, which is odd in a member of the Bourbon race. Perhaps it will improve in this respect.

SALAMANDER (W. Paul, 1891).—I have not seen this year any maiden blooms of this Rose, but have had some little flowers from a purchased plant, and even the smallest has been of good form with a fine pointed centre, and I have good hopes that it will prove valuable. It appears to be of quite fair average growth.

TEAS.

CLEOPATRA and ERNEST METZ have both "won their spurs" handsomely, but the former is a very bad grower with me, even as a standard. It is most difficult to find buds sufficiently good for propagation till quite late in the season, and even then the working them is almost as bad as threading a needle.

ETHEL BROWNLOW (Dickson, 1887), is not now a new Rose, but I mention it because I am surprised to see that it was not shown sufficiently to figure in the Rose Analysis. My plants did very badly up to 1891, when they all suddenly took to growing well, and the habit is now quite different with me to what it was three years ago. The plants suffered from the weather this year in common with other Teas, but appear to be rapidly improving and coming to the fore; the best specimens I have ever seen having been exhibited this season. There can be no doubt that a good specimen is quite first class, and I look upon it as one of the best of the Irish Roses.

WABAN (Wood & Co., 1891).—I have not seen a good specimen of this Rose, but the only bloom I had was quite distinct in colour, being at first of a dark red. If really a sport from Catherine Mermet, I think that high anticipations may be held of it.

ROSES AT THE CRYSTAL PALACE.

Of the new Roses shown at the Crystal Palace, the first place must be given to Mrs. W. J. Grant. One or two of Messrs. Dickson's new Roses have appeared to me to be wanting in the high centre, which especially gives "quality" to a Rose; they have been all Rose and no point. Mrs. W. J. Grant, on the other hand, as shown at the Palace, was all point and no Rose. But it seemed likely that this was merely because the flowers were not sufficiently developed, and that this was so was shown later, I am told, at Chester. It was certainly very promising and very distinct. Corinna was shown again by Mr. W. Paul. I think it will prove good, though perhaps not quite up to the gold medal standard.

Henry Gow and Captain Hayward are both strong growers, and at least one fairly good bloom was shown of each. They were decidedly better, I should say, than a large proportion of the French Roses annually sent out. Would it not be well for the N.R.S. to give certificates to those which reach a certain standard of merit, though not worthy of a gold medal?

Clara Watson, shown by Mr. Prince, looked a good deal like Souvenir de Paul Neyron. It seemed to be of poor growth, which makes a great deal of difference in its value, for a Souvenir de Paul Neyron of vigorous growth would be quite an acquisition.

Spenser and Lady H. Grosvenor, as shown by Mr. W. Paul, seemed to me to be too flat. I fear I have a "fad" for a high-pointed centre as giving quality to a Rose.

I have heard a capital account of the Duke and Duchess of Fife, upon which Messrs. Cocker should be congratulated. The former, a crimson scarlet Etienne Levet, must surely be a great acquisition.

Madame Caroline Testout, H.T., and Elise Fugier, T., were shown by Mr. G. Paul at the Palace, and both are highly spoken of. The latter, which has received a good deal of commendation, appeared to be better shaped than Niphetos and more inclined to the form of Innocente Pirola.

I hope someone will be able to supplement or correct these imperfect notes, or give some information upon new Roses which I have not seen.—W. R. RAILLEM.

TEA-SCENTED ROSES FROM CUTTINGS.

THE article of Mr. Dunkin (page 349) on Tea Roses reminds me of plants I now have in 6-inch pots advancing into bloom. The varieties are principally those he enumerates. They are from cuttings taken off forced plants in April. After the shoots had flowered they were taken off with a heel, leaving three pairs of leaves to each cutting. They were inserted three or four around the sides of a 60-sized pot and placed in the propagating case. When rooted the plants were placed singly in the same sized pot, grown in a warm pit, and eventually transferred to the 6-inch pots. The plants are now a good size, arranged near the glass in a structure where the night temperature ranges from 55° to 60°. They are advancing finely into bloom, and I hope to cut

buds from them throughout the winter. After the buds open the shoots must be severely pruned, as the back breaks produce the strongest growths, and consequently the best blooms. It is astonishing the size Tea Roses may be grown in a few months from cuttings struck and grown with warm treatment throughout the summer. Tea Roses are invaluable for buttonholes during the winter months, and considering the ease in which they may be produced they should be had in quantity.—A. Y.

GROWING MOSS FOR ROSE BOXES—INFORMATION WANTED.

HAS anyone succeeded in raising artificially good moss and in sufficient quantity to be of use to the exhibitor? That this is a real want I need only mention. I have to send two miles to procure good green moss. I have done so for years now. My well known, for his amiability, friend "D., Deal," told me I was using "hay" instead of moss. It really was brown as old "hay," but true moss. Can anyone suggest how to grow a good breadth of moss artificially without sacrificing valuable ground? I have no old walls to scrape.—THE DOLEFUL ROSARIAN.

ROYAL HORTICULTURAL SOCIETY.

NOVEMBER 1ST.

THERE was a fair display of bloom at the Drill Hall on the above date. Orchids were well shown for the time of year, and Chrysanthemums were in evidence. Fruit was poorly represented.

FRUIT COMMITTEE.—Present: Phillip Crowley, Esq. (in the chair), Dr. Hogg, H. Balderson, J. Smith, J. Willard, G. H. Sage, A. Dean, W. Warren, G. Bunyard, H. Pearson, Rev. W. Wilks, H. Weir, T. F. Rivers, G. Hammond, and J. Cheal.

Fruit was not very plentiful. Mr. T. H. Crasp, Canford Manor Gardens, Wimborne, staged a number of dishes of Apples for which a bronze Banksian medal was recommended. The best varieties amongst these were Cox's Pomona, Hollandbury, Ribston Pippin, Fearn's Pippin, and Mère de Ménage, the last named being exceedingly well coloured. Mr. W. Iceton, Roehampton, showed two baskets of well-coloured Grapes, and was accorded a cultural commendation. A vote of thanks was accorded Mr. J. Watkins, Pomona Farm, Hereford, for several dishes of Apples. Some bunches of Grapes, including Black Monukka, Mrs. Pearson, Royal Ascot, Cannon Hall Muscat, and a seedling were sent from the R.H.S. Gardens at Chiswick. Messrs. J. Veitch and Sons showed a dish of well grown Marie Louise Pears, and Messrs. T. F. Rivers & Sons a new seedling Plum named *Rivers' Late Orange*. The latter was awarded a first-class certificate. The fruits are medium size, orange yellow colour, very firm, and of excellent flavour; a valuable late variety.

A collection of Turnips, including Model White, Golden Ball (Dobbie), New Marble, Harrison's Exhibition (Harrison), White Flat Dutch, and Large White Globe (Vilmorin), came from the Society's gardens at Chiswick, as also did a large number of Savoy and Cabbages.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair), G. Phippen, G. Paul, J. Fraser, W. Bennett Poë, Chas. Noble, T. Baines, W. Bain, C. Jefferies, H. Cannell, W. Furze, H. Turner, C. E. Pearson, T. W. Girdlestone, and B. Wynne.

Chrysanthemums, as may be expected, were a feature. Messrs. H. Cannell & Sons, Swanley, Kent, sent a dozen blooms of Vivian Morel, decidedly the best we have seen this year. A similar number of Col. W. B. Smith, shown by the same firm, also attracted attention, the flowers being very massive and of a golden bronze colour. Two more boxes of miscellaneous blooms were also shown by Messrs. Cannell, and amongst others a splendid flower of Beauté de Toulousain was noticeable. This partakes after E. Molyneux, but is richer in colour. A variety named Golden Ball was adjudged an award of merit, and is described below. Messrs. J. R. Pearson & Sons, Chilwell, Notts, sent half a dozen new varieties of Anemone, Japanese and single types. They were Delaware, Mdle. Mathilic Brun (A); Purple Queen and Emily Doone (J); Dawn (an attractive single) and a seedling Jap. Emily Doone secured an award of merit. Mr. H. J. Jones, Rycroft Nursery, Lewisham, showed several new Chrysanthemums, and secured an award of merit, as also did Mr. R. Owen, Maidenhead. These are referred to below.

Messrs. Anthony Waterer, Knaphill, Woking, sent a collection of autumn foliage, comprising several Vacciniums, Acers, Andromeda, and Quercus coccinea splendens, the latter a charming red-leaved Oak. Messrs. J. Veitch & Sons, Chelsea, staged a collection of Nepenthes, including thirty-one of the best varieties, the most attractive among them being the well-known N. Rafflesiana, N. Cheloni, N. Northsii, and N. Mastersiana, the latter a very dark hybrid (gold medal). Mr. J. McLeod, Dover House, Roehampton, sent a group of well-grown Bouvardias (silver medal); and Lord Rothschild, Tring Park, a new perpetual yellow flowering Carnation, which was passed. A number of Begonias that had been used for bedding during the present year came from the Royal Gardens, Kew; and Hoya imperialis from Mr. F. W. Moore, Glasnevin Botanic Gardens, Dublin. The latter was awarded a first-class certificate, and is referred to elsewhere. Mr. R. Mackellar, Abney Hall, Cheadle, sent Ixora Duff; and Lady Cave (gardener, Mr. Poole) Cleve Hall, Downend, showed Rhipidophora lancifolia. Messrs. B. S. Williams staged a small collection of Nerines.

For a collection of Chrysanthemum blooms, undressed, Mr. T. Osman, gardener to L. J. Baker, Esq., Ottershaw Park, Chertsey, secured the first prize. The flowers were neat and of good form, the best being

Sunflower, Louis Boehmer, E. Molyneux, Elaine, and Maggie Mitchell. Mr. G. Wythes, gardener to the Duke of Northumberland, was second, the flowers in this case being set up in a tasteful manner. Mr. J. Douglas, Great Gearies, secured the first prize for twelve new Chrysanthemums, amongst which were some good blooms of W. Tricker, W. H. Lincoln, Vivian Morel, and Gloire de Rocher.

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair), Dr. Masters, Messrs. J. O'Brien, C. Pitcher, T. W. Bond, H. Ballantine, H. M. Pollett, W. H. White, T. B. Haywood, J. Jaques, and H. Williams.

If not so extensively shown as is sometimes the case, there were many choice things amongst the Orchids. Messrs. F. Sander & Co., St. Albans, sent a small group, for which a silver Banksian medal was recommended. Amongst these were Cymbidium hybridum Winnianum, and Cattleya labiata var. Sanderæ. These were honoured with certificates, and are referred to below. Messrs. J. Veitch & Sons, Chelsea, also staged several beautiful hybrids, some of which are mentioned elsewhere, these likewise being awarded certificates. Messrs. B. S. Williams & Son, Upper Holloway, sent a large collection, which made a charming display (silver Flora medal). Sir Trevor Lawrence, Burford Lodge, Dorking, sent a spray of Spathoglottis Vieillardii rubra, for which a first-class certificate was awarded. Messrs. Hugh Low & Co., Clapton, staged a small collection, amongst which the beautiful Vanda cærulea was conspicuous.

CERTIFICATES AND AWARDS.

Cymbidium hybridum Winnianum (Sander & Co.).—This is a cross between C. giganteum and C. eburneum, and was raised by Mr. C. Winn, The Uplands, Selby Hill, Birmingham. The plants shown had five spikes of flowers, nine or ten blooms being on each. The sepals and petals are creamy yellow, as also is the lip, the latter being spotted with dark crimson (first-class certificate).

Cattleya labiata var. *Sanderæ* (Sander & Co.).—This is a beautiful variety. The sepals and petals are of a delicate mauve tint, the lip white with a rich velvety purplish magenta shade and yellow throat (award of merit).

Lælia elegans excellens (T. Statter, Esq.).—One spike carrying four flowers of this was shown. The petals are rosy mauve colour, the sepals being lighter and narrower, whilst the lip is of charming magenta crimson shade (award of merit).

Cypripedium Arthurianum pulchellum (Veitch & Sons).—This is a hybrid between C. insigne Chantini and C. Fairrieanum. The dorsal sepal is of a pale greenish yellow colour with brown spots, the petals being darker. The lip is also of a striking olive green shade (award of merit).

Cattleya leucoglossa (Veitch & Sons).—This is a charming hybrid, the result of a cross between C. fausta and C. Loddigesii. The sepals and petals are a delicate rose colour, the outside of the lip being of a similar shade with a white fringed edge and yellow blotch in the throat (award of merit).

Lælia Perrini nivea (B. S. Williams & Son).—The petals and sepals of this variety are, as its name implies, pure white, as also is the lip, the tip of the latter being fringed and of a very pale soft pink shade (award of merit).

Spathoglottis Vieillardii rubra (Sir Trevor Lawrence).—A charming variety with purplish magenta flowers, the lip being of a richer shade, and orange yellow throat (first-class certificate).

Hoya imperialis (F. W. Moore, Dublin).—This is a splendid species with large curious flowers of a reddish and cream colour. The flowers are sweetly scented (first-class certificate).

Chrysanthemum Emily Doone (J. R. Pearson & Sons).—A beautiful incurved Jap. The flowers are large and of good substance. The florets are white, changing to pink as they mature, the centre being pale yellow (award of merit).

Chrysanthemum Golden Ball (H. Cannell & Sons).—An attractive reflexed variety of a bright golden yellow colour (award of merit).

Chrysanthemum W. H. Atkinson (H. J. Jones).—A massive reflexed Jap, of a reddish brown colour (award of merit).

Chrysanthemum Vesuvius (R. Owen).—This is an English-raised October-flowering variety. The flowers are medium-sized, and of a deep golden brownish shade (award of merit).

Croton Beatrice Horsfall (Mrs. Horsfall).—An attractive variety. The leaves are narrow, of a dark bronzy green shade, with red centre rib and bright yellow base (award of merit).

Plum Rivers' Late Orange (Rivers).—A valuable late variety. Fruit medium-sized, roundish, and of an orange yellow colour, faintly spotted with crimson; flesh firm, and of excellent flavour (first-class certificate).

LECTURE ON FRUIT TREES IN POTS.

A PAPER on the above subject was read by the Rev. W. Wilks at the afternoon meeting. Dr. Hogg occupied the chair.

The lecturer, who dealt with his subject in a masterly style, laid special stress on the importance of repotting the plants every year, and remarked that a good feeding compost should be used, the roots being entirely cleared of all old soil, which must be replaced with new. Watering, the lecturer said, was one of the most important details in the successful culture. A very rich mulch should be given to the plants in or about April, afterwards using liquid manure freely.

His house, which is 48 feet long by 20 feet wide, and 12 feet high to the ridge, will hold twenty-eight Peaches and Nectarines, twenty-one Pears, and twelve Plums. The latter, Mr. Wilks remarked, are shifted when the trees become the least crowded, and during the six years that the house has been in use he has never failed to get a hand-

some crop. He has no doubt that by continuing the generous treatment he has hitherto accorded them, they will continue to bear as fruitfully for another four or five years, after which, if they do not crop, he will not object to lay in a fresh stock. The most absolute cleanliness, both of the house, the plants, and the pots, is an essential to success.

At the conclusion of the paper some interesting remarks were made by Messrs. Rivers, Cheal, Bunyard, and Cannell, to which Mr. Wilks responded.

Hearty votes of thanks to the Rev. W. Wilks for his most admirable paper, and to the Chairman, concluded the meeting.



EVENTS OF THE WEEK.—Chrysanthemum Shows are now the order of the day, and a list of the leading Exhibitions to be held during the ensuing week is given on another page. Regarding metropolitan horticultural events, however, it may be here mentioned that a three-days Show opens at the Royal Aquarium, Westminster, under the auspices of the National Chrysanthemum Society, on Tuesday, November 8th. Kingston and Surbiton Exhibition will be held on the same day. Several auction sales will take place, for particulars of which see advertisements.

— **THE WEATHER IN LONDON.**—During the past week the weather has been of a variable character. On Sunday it was mild and bright, though rain fell heavily all night, continuing more or less on Monday. Tuesday it was colder, dry, but dull, and inclined to be foggy. A sharp frost occurred at night, and at the time of going to press it is very cold and foggy.

— **THE WEATHER IN THE NORTH.**—Severe frosts prevailed here during the nights of 24th and 25th October, and Dahlias and Tropæolums were destroyed on the night of the 24th ult. The frost on the night of the 25th was very intense, but on Wednesday, the 26th, the wind changed to the S.W. about midday, and rain followed. The 27th, 28th, and 29th were wet. Sunday, 30th, was very fine and mild, the autumn Crocuses opening out beautifully to the rays of the sun. To-day (31st) is very foggy and frosty. The minimum temperature on the grass at Dumfries (nearly ten miles, as the crow flies, due north) was 14° during the night of the 25th. On the 24th it had been 16°.—S. ARNOTT, *Dumfries, N.B.*

— **ROYAL HORTICULTURAL SOCIETY.**—MEETINGS IN 1893.—The meetings of the Royal Horticultural Society during 1893 will be held as nearly as possible as under:—January 17th; February 14th; March 14th, 28th; April 11th, 25th (Auricula Show); May 9th, Temple Show, 24th and 25th, or 25th and 26th; June 13th, 20th; July 11th Show at Chiswick, 25th Carnation Show; August 8th, 22nd; September 12th, 26th (possibly a great Show at the Agricultural Hall, Islington, early in this month); October 10th, 24th; November 14th, 28th; December 12th.

— **NATIONAL AMATEUR GARDENERS' ASSOCIATION.**—A paper on the "Carnation as a Garden and Exhibition Flower," by Mr. Rowan, was read at the monthly meeting of the above Association, which took place at the Memorial Hall, Farringdon Street, E.C., on Tuesday, November 1st. Mr. Rowan was unable to be present owing to illness, and his essay was read by Mr. Terry. There was a very large attendance of members, and Mr. T. W. Sanders, F.R.H.S., presided.

— **WINTER CHERRIES AND HONESTY.**—For vase decoration in winter when flowers are scarce nothing more beautiful and cheerful could be used than a mixture of *Physalis Alkekengi* and *Lunaria biennis*. The brilliant orange capsules of the Winter Cherry harmonise admirably with the transparent white seed vessels of the Honesty. They light up a room on a dull day in a most welcome manner.

— **PRESTON AND FULWOOD HORTICULTURAL SOCIETY.**—The forty-ninth monthly meeting of members will be held in the Council Chamber of the Town Hall (by permission of His Worship the Mayor) on Saturday evening, November 5th, 1892, when Mr. James Hathaway, gardener to Lord Lathom, will read a paper on the "Tomato and its Cultivation." Prizes will be awarded for Tomatoes, Chrysanthemums, and fruit.

— **POTATOES IN RUTLANDSHIRE.**—Large crops of Potatoes are being lifted in the neighbourhood of Oakham, and there is, on the whole, an exceedingly good yield, with scarcely a diseased tuber.

— **NEW PARK FOR NORTHAMPTON.**—It is said that Lord Wantage has generously offered to the Northampton Town Council the free gift of Abington Abbey and twenty acres of land for a people's park.

— **CORNFLOWERS.**—I note what Mr. S. Arnott says about the annual Cornflowers on page 381. I started these annuals with but two shades of blue, and now I have nearly a dozen distinct colours, with many shades.—W. T.

— **PORTSMOUTH CHRYSANTHEMUM SHOW.**—We are informed by telegram that the following awards were made yesterday (Wednesday) at Portsmouth:—In the class for forty-eight blooms—first, Mr. N. Molyneux; second, Mr. Neville; third, Mr. Inglefield. Twenty-four.—First, Mr. Inglefield; second, Mr. Molyneux; third, Mr. Penford, Twelve Japanese—First, Mr. Agate; second, Mr. Hawkins. Twelve incurved.—First, Mr. Hawkins; second, Mr. Steptoe. Group.—First, Mr. Hatch; second, Mr. Hunt. Twelve specimen plants.—First, Mr. Burridge. Six plants.—First, Mr. Lambert. Six blooms of any one Japanese.—First, Mr. Molyneux, with *Avalanche*. Six any incurved.—First, Sir Wm. Pink, with *Princess of Wales*.

— **A FRIENDSHIP GARDEN.**—It is reported that at Easton Lodge a flower garden has been laid out under the personal direction of Lady Brooke, who terms it her "Friendship Garden," her friends and relatives being invited to plant trees, evergreens, &c., there as mementoes of their visits to the Lodge. During a recent visit the Prince of Wales planted a specimen of *Salisburia adiantifolia* in this romantic spot. Lady Brooke is also arranging a Shakespearean border, the object being to include in it every plant mentioned in Shakespeare's works.

— **WHY DO PLANTS GROW?**—In discussing this question before the members of the North of Scotland Horticultural Association recently Mr. Mortimer of Tullos indicated the composition of the substances that were required for the growth and nourishment of plants—air, water, and earth; and said that one must properly understand these before they could thoroughly cultivate plants. These removed from the soil the materials for their own subsistence, and plants that required the same materials ought not, he said, to be grown two years in succession, because they would prove injurious to each other.

— **POTATOES IN AUSTRALIA.**—Various experiments which are being made in France with a view to the improvement of the Potato have attracted a good deal of attention in Australia. According to a statement recorded in the *Agricultural Gazette of New South Wales*, no fewer than 110 growers have obtained from a variety known as Richter's Imperator from 12 to 20 tons per acre, while the average is over 14 tons to the acre. The Minister of Agriculture in New South Wales has approved of 1 cwt. each of this and any other three sorts highly reputed in France being imported for experimental purposes.

— **WINCHESTER AND DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.**—At the fortnightly meeting on the 27th ult., Mr. E. Molyneux, The Gardens, Swanmore Park, read a paper on the Apple to an appreciative audience, illustrating his remarks with branches of trees to show the results of different systems of pruning. There was a representative exhibit of Apples contributed by various members of the Association, the largest collection coming from Mr. G. Mildon, gardener to Miss Turnour, Kingsworthy House, who staged thirty dishes of remarkably fine, well-coloured fruit. On the 17th inst. a lecture on manures will be delivered by Mr. Alexander Dean, F.R.H.S.

— **STOPPING CUCUMBERS AND MELONS.**—Mr. Dunkin is a little hard on Mr. Swan anent the latter's remarks on stopping Cucumbers. For summer crops I always stop the laterals at every joint after the plants are fairly started and the framework laid. It was a practice I adopted from an old and very successful grower well known to the Editor of the *Journal*. Melons I stop at two leaves beyond the fruit and no other laterals are allowed to form; the trellis, however, being covered with well developed leaves from the non-fruit-bearing laterals. As regards depth of flesh and full flavour, the fruits would compare favourably with any Mr. Dunkin could produce on the extension system he champions. I go in for the happy medium in stopping laterals of both Vines and Melons, the manipulation of the growth being very similar.—A. YOUNG. [The crops of Cucumbers produced by the "Old Grower" referred to over a series of years we have never seen excelled.]

— **ANEMONE JAPONICA ELEGANS.**—How seldom do we see this *Anemone* mentioned in the horticultural Press, notwithstanding its effectiveness on the herbaceous borders or when grown in a mass in the shrubbery. For cutting, too, the blush pink flowers are useful, but as a border plant it is most valued. If anything it is of a rather stronger growth than *A. japonica alba*.—E. M.

— **RAINFALL AT CUCKFIELD.**—The total rainfall at Cuckfield, Sussex, for October, was 5.24 inches, being 1.29 inch above the average. The heaviest fall was 0.93 inch on the 30th; rain fell on twenty days. The highest temperature was 58° on the 29th, lowest 30° on 24th. Mean maximum 51°, mean minimum 40°, mean temperature 45.1°. Partial shade readings 1° above the average.—R. I.

— **BOUVARDIA PURITY.**—What a chaste and strongly scented *Bouvardia* this is! It appears to resemble *Humboldtia corymbiflora*, only more dwarf and free flowering than that kind. After seeing the note by "H. W." on *Bouvardias* at Messrs. Veitch's nursery the above variety suggested itself to me, as I notice it does not appear in his list.—A. Y.

— **STEVENSONIA GRANDIFLORA.**—It is a pity this Palm will not conform to ordinary treatment. To grow it well it requires a high and moist temperature and to be shaded from strong sun. I see the flowering of this rare Palm is noted as an event at Kew. Mr. George Legg, when at Cleveland House, Clapham, used to occasionally exhibit a splendid plant. It is too tender for decorative purposes.—A. Y.

— **GRAPES AT WATERLOW PARK.**—The thousands of people who now daily visit the Chrysanthemum Show at Waterlow Park, Highgate, are much interested in the Grapes that are hanging in the vineries. The bunches are of medium size and well coloured, considering the fact that previous to last year the Vines were sadly neglected. As mentioned in these pages some weeks ago, all the Grapes and other fruit grown at Waterlow Park are distributed amongst the various metropolitan hospitals.—C.

— **THE WEATHER IN THE BINGLEY DISTRICT (YORKSHIRE).**—The first snow of this season fell here on the morning of the 24th ult. The two following mornings we registered 11° frost, and on Thursday rain fell during the greater part of the day. Friday and Saturday were remarkable for being extremely mild, the thermometer standing as high as 53° at half-past six in the morning. Apples in these gardens have been a failure with three exceptions—namely, Duchess of Oldenburg, Emperor Alexander, and Betty Geeson, the second named being the heaviest bearer.—T. H. B., *Milner Field*.

— **SCHOOL GARDENS.**—One of those active and energetic persons who constitute in so high a degree the force which impels to good work, a local technical education secretary, remarked the other day how very much he would like to obtain in a suitable situation in each village under his jurisdiction a small area of ground, perhaps one-eighth or one-fourth of an acre, which could be utilised as real training grounds for the oldest and most energetic lads in the village schools, as horticultural practice gardens. It wears a most hopeful look when we see a movement of this description fostered and assisted by the county councils, and aided and supervised outside the ordinary elementary school management and teaching staff. One weak feature of all the proposals made hitherto in the direction of instructing children in gardening, was the almost entire absence of knowledge, either practical or theoretical, on the part of school teachers. In a limited degree that difficulty is being overcome by inducing school teachers to attend horticultural classes, and thus become fairly proficient in at least theoretical horticulture. But to make apt pupils or teachers practical knowledge is needful, and school gardens for advanced boys seem to present in an eminent degree the means to the desired end. We have in a very few places school gardens already in existence, and in all our large industrial or pauper schools where there is garden ground, the boys have in these some practical horticultural instruction. Still we want to see this sort of thing universal, as in that way we may hope to see quite a new stimulus given to gardening and a deep interest aroused in all that concerns both the culture of the soil, and hardy fruits and vegetables. I am glad to know that a commencement has been made in the direction indicated in Surrey. Groups of continuation school gardens have been formed, and some of them cropped during the present season, and steps are being taken to extend the system. An experimental garden on a larger scale is, I hear, to be established in Derbyshire.—A. D.

— **THE WEATHER IN PERTHSHIRE.**—The intense frost of the 25th and 26th ult. was followed by a sudden and unexpected thaw, followed by a great deal of rain. The last day of October was very fine; at night frost set in, and this morning (November 1st) 7° are registered. B. D., *S. Perthshire*.

— **A LARGE PORTUGAL LAUREL.**—A Portugal Laurel at Combermere Abbey, in Cheshire, is said to be at least 200 years old, and its branches have rooted in every direction. It has the appearance of being a large mass of shrubbery instead of a single Laurel. In places it is 30 feet high, and altogether it is 100 feet in diameter.

— **A MAGNIFICENT DOUGLAS FIR.**—A Douglas Fir was planted in the spring of 1842 at Walcot Park, the seat of the Earl of Powis, in Shropshire. This spring, after it had stood fifty years, it measured, says an exchange, 107 feet to the top of the leader, and at 4 feet from the ground the girth of its trunk was 12 feet 9 inches.

— **POTATO DISEASE IN THE MIDLANDS.**—It is reported that, in consequence of the recent excessive rains, disease has attacked the Potato crops in Huntingdonshire and Northamptonshire. Potatoes are extensively grown in these districts, and if the crops should fail, in addition to the bad harvest, the present agricultural depression will be increased.

— **TREES AND TREE PLANTING.**—At a recent meeting of the Wakefield Paxton Society, Mr. Wardman, The Gardens, St. John's, read a very useful and opportune paper on the above subject, in the course of which he pointed out the marked absence of taste and the meagreness of variety, with the consequent loss of effect, which is manifested in the planting of many gardens.

— **PYRETHRUM ULIGINOSUM.**—"H. W. W." does well to say a word in favour of this perennial. It is at the present time (October 15th) in splendid condition. We have clumps of it growing 8 feet apart down two sides of the kitchen garden, and being alternated with Michaelmas Daisies form quite a seasonable display with us, though the *Pyrethrum* grows over 7 feet high.—E. M.

— **CULTURE OF ONIONS.**—Mr. W. K. Woodcock, lecturer to the Norfolk County Council, recently dealt with the culture of Onions. He considered the Onion as ranking next to the Potato in importance as an article of consumption, and in its extensive cultivation. The manuring of the land, as in the case of the general cultivation of most crops, should be done in the autumn. Lime and soot dressings were invaluable at the proper season, in order to prevent or minimise the havoc caused by the maggot. The disease known as the "Onion mildew" was fully explained by Mr. Woodcock, and was shown to belong to the same species as the Potato disease (fungi family), and most prevalent in warm and moist localities. To prevent as far as possible the spreading of the disease, the dressing of the land with lime and the advantages of a rotation system of cropping were advocated.

— **DRYING FRUIT.**—It is singular that, while for many years the process of drying fruit has been carried on upon an enormous scale in the United States, the British fruit grower, although bemoaning often the cost of carriage and the rapacity of the average middleman, has, so far, says a daily contemporary, taken no steps whatever to avail himself of a process by which he can diminish the freight to one-fifth eliminate the loss arising from damage during transit, and render himself altogether independent of Covent Garden. The recent Exhibition, before a number of fruit growers, at the Chiswick Gardens of the Royal Horticultural Society, of the work of a cheap and simple process for drying fruit will, it may be hoped, induce many of our fruit growers and farmers to consider the question seriously, and to give a trial to methods which have proved in America of such value alike to agriculturists and to the public. Enormous quantities of fruit are yearly wasted in this country simply because of the expense of getting to market, and the fact that there is at that season so great a glut that the prices obtained often hardly cover the cost of picking. For dried fruits, however, the demand would be steady throughout the year so soon as the public in general came to understand and appreciate its value for all culinary purposes. The carriage would be comparatively trifling, and the fruit should command prices very much more remunerative than when fresh. Naturally, the best kinds and varieties of fruit would still come to market, for these always command fair prices. It is for the cooking Apples, and for the varieties that are attractive neither to the eye nor the palate, that the drying process is peculiarly applicable.

— TECHNICAL EDUCATION IN HORTICULTURE.—We are desired to state that Mr. A. M. C. Jongkindt Coninck, late of the Nurseries, Dedemsvaart, Netherlands, is commencing a technical school at Bussum, near Amsterdam, which was opened on November 1st, for the thorough training of young gentlemen in horticulture in all its branches. Mr. Coninck, who is not unknown in England, bears a very high character; he is, we are authoritatively informed, well adapted for such work, for which he has already achieved a reputation.

— PLANTING TREES AT ROPNER PARK.—A pleasant function took place recently at the Ropner Park, Stockton. It was in connection with the planting of the first trees in the park. The cutting of the first sod was gracefully performed last year by Mrs. Ropner, whose husband (Major Ropner) is the munificent donor of the Park to the old Teeside borough. The first tree was planted by Mrs. Hind, wife of Alderman Hind, J.P., the Chairman of the Park Committee, and the lady was the recipient on the occasion of a pretty silver spade, the gift of Mr. James Watt, J.P., principal of the celebrated firm of Messrs. Little & Ballantine of Carlisle, nurserymen, and contractors for the planting of the park.

— NEW ZONAL PELARGONIUMS.—Messrs. Cannell's set of Zonals for 1893 will be found an exceptionally strong one, and lovers of these beautiful flowers should secure it in its entirety. It is composed of four raised at Swanley and several raised by Mr. Miller. The former are A. F. Woolton, a lovely light salmon with enormous pip, fine truss, and an excellent grower; Madame Melba, a most beautiful variety in the way of Lady Brooke, but a decided improvement on that charming sort, white, with the centre flushed delicate pink. It has a large round pip and a truss of great size. It forms a splendid floral prototype for the beautiful and gifted singer whose name it bears. Mascagni, named after the now famous composer, is a soft mottled salmon with a central ring of brilliant vermilion. It has a good habit, and is a fine grower. W. P. Wright is a powerful addition to the scarlets. It has a very large round pip, with broad overlapping petals, and is a dwarf sturdy grower. The others are all beautiful. Lord Tennyson is deep salmon; Picotee, mottled salmon with deeper picotee-like edge; and Double Guinea, light orange, are the three doubles. Three beautiful singles are the Rev. W. Bartram, brilliant scarlet; Blue Peter, purplish magenta, the nearest approach to blue yet secured; and Lady Dufferin, mottled salmon. The 1892 novelties are also lovely varieties. White Lady, snow white; Marquis of Dufferin, purplish magenta; Amphion, pink; Lord Iddesleigh, bright scarlet; and Inverness, salmon, are all conspicuous for round, smooth pips, and large trusses. Of the doubles, Colossus, a lustrous carmine-red seedling from F. V. Raspail; Sir Hamilton, purplish pink; Lady Lena, salmon, with light markings; and Miller's Gem, purplish magenta, and conspicuous for its light stems, are all acquisitions. In the superb collection of Zonals now in glorious bloom at Swanley the varieties named are conspicuously beautiful, while they are strengthened by the two varieties honoured by the R.H.S. a fortnight ago—Madame Bondeville and Improved Raspail.

— VEGETABLE NOVELTIES.—What are more dainty, says a ladies' contemporary, than well made croquettes of Potatoes fried until a pretty golden colour? If given even cold mutton for dinner, with Potato croquettes and a good salad, followed, perhaps, by a tasty dish of fresh Beans which have been simmered in a little butter seasoned with salt and pepper, and garnished with crisply fried sippets, one would not feel so inclined to grumble as when a cold joint is placed on the table with boiled Potatoes, the latter, perhaps, badly boiled, and French Beans dressed in the same way. A Vegetable Marrow, boiled, filled, when cold, with, say, a stuffing composed of scraps of cold meat or poultry well seasoned and mixed with bread-crumbs, or a thick, well-flavoured gravy, then rolled in flour, egg, and bread-crumbs, and fried a pretty golden colour, will make a dish which few people, if any, will not appreciate. Also it will use up scraps of meat which would probably be insufficient to make a dish of alone, as well as helping to free the bread-pan of stale pieces of bread, which, even in the best regulated of households, are apt to accumulate. The remains of a Cauliflower, if divided into small neat pieces, seasoned with a little minced parsley, salt, and pepper, then dipped into a light batter and fried, make an excellent dish, as does also the same vegetable simmered, or, more rightly speaking, braised, in a little stock. Of course all vegetables used should be freshly gathered. Cauliflowers and Cabbages will become fermented if kept long after they are cut, and thus an easily digested vegetable becomes just the reverse. Cabbage, in its various kinds and qualities, is grown as generally as Potatoes and Onions in all gardens, and as regularly boiled in our

kitchens. The idea of rubbing it through a sieve, as Spinach should be done, adding a little butter or even a small quantity of pork or beef dripping, a little grated cheese, salt and pepper, and beating all together, then serving it garnished with sippets and hard-boiled eggs divided into quarters, is never thought of. Little rolls of bacon daintily arranged round the Cabbage will make a dish more nutritious and certainly more appetising for lunch than many which are served, and the trouble and expense in preparing it are certainly not very heavy. Small cabbages blanched, the centres removed, and in the place a little minced meat, seasoned nicely, inserted, are excellent, if braised and served on squares of fried bread.



PILUMNA NOBILIS.

AMONGST the whole family of Orchidaceous plants fragrance in the flowers is more the exception than the rule, but with the above species there cannot be any misgivings as regards that matter, inasmuch as it is one of the strongest scented flowers in cultivation. The smaller *P. fragrans* is better known, but the one under notice is much the best. Out of three plants two of them are now in full bloom, and the other will follow quickly. Whether this must be regarded as the normal season of flowering I cannot say, as in other years with me they have bloomed in February and March; but this no doubt is the true season, the plants being very vigorous. Up to within the last two years I grew them in the Cattleya house, but they would not thrive at all well, the pseudo-bulbs getting gradually smaller. As a last resource the plants were placed in the cool house with the *Odontoglossums* when they commenced to improve at once, and which is evidently the proper position for them.

This is also an Orchid that does not like being unduly disturbed at the roots, and it thrives best in a well-drained pot. The material for growing it in should be good lumpy peat with fresh sphagnum, and firm potting is essential. During the growing season it requires a moderate amount of water, but after the pseudo-bulbs have formed the supply must be lessened, though not be kept wholly dry. It is upwards of four years since our plants were repotted, and as the compost is still sweet and the plants in a satisfactory condition, I shall not disturb them. The pure white and waxy looking flowers have a chaste and glistening appearance, with the exception of a yellow eye, which, however, enhances its effect.—A. YOUNG.

SOPHRONITES GRANDIFLORA.

THE plump growth of this pretty little winter-flowering Orchid will soon reveal its charming brilliant scarlet flowers, and assist with its dainty bits of colouring in enlivening the structure in which it is growing. I fancy the plants are often grown too cool, at least during the winter months, many growers thinking the cool house the best position for them the whole year round. During the summer months the cool house is undoubtedly the best position for them, the Cattleya house at this period being too warm and sunny. During the autumn and winter, however, the temperature of the Cattleya or intermediate house suits them the best. At least, I place our plants in the Cattleya house early in October and allow them to remain until April, when they are removed to the cool house. Under this treatment they do not degenerate. I have a number of plants, and some of the little specimens will produce a dozen flowers. The flowers also develop better in the Cattleya house and are a better colour. They are best cultivated in little pans and suspended near the glass. A plentiful supply of water is needed right throughout the growing season, and as the young growths develop with a flower it will be some time yet before the leaves become matured. After this takes place they must be kept fairly moist, over-dryness being fatal to their well-doing. They also require to be fixed firmly in the pans.—A. YOUNG.

PAPHINIA GRANDIS.

ALTHOUGH the proper name of this plant is *Lycaste grandis*, no doubt the name *Paphinia* will be the one used by horticulturists for a long time to come. The plant is a native of Brazil, and requires a stove temperature for its cultivation. The plants are small, but the flowers are large and fragrant. The pseudo-bulbs

are very short, surmounted by two or three leaves; the pendant scapes are produced from the base of the pseudo-bulbs, and carry two or three flowers, each from 4 to 6 inches in diameter. The sepals and petals are broadly lanceolate, their upper halves are purplish chocolate, and the basal halves dull creamy white, strongly blotched and barred with chocolate. The lip is small, three lobed; side lobes small and dull brown, centre lobe longer and spreading, bearing at the apex a large cluster of thick creamy hair. It

Glasnevin Botanic Gardens at Dublin, under whose care the above species (fig. 54) flowered for the first time in Britain in 1890. The home of this plant is not, we believe, exactly known, as it was bought by Mr. Moore, among other things, at a sale. A spike of thirteen flowers was exhibited by Mr. Moore at a meeting of the Royal Horticultural Society on Tuesday, March 22nd, of this year, when a first-class certificate was awarded it. The flowers are about 2 inches across on long pedicels;



FIG. 54.—MOOREA IRRORATA.

should be grown in peat and sphagnum, and suspended in baskets near the roof glass. When growth commences care should be taken not to allow any water to settle in the young growths or they will decay. Plenty of moisture should be given while growing freely, and previous to their flowering in October or November a sharp look out should be kept, or the scapes, which are produced so low down, will be lost by damping off.—C. K.

MOOREA IRRORATA.

THE genus *Moorea*, which is monotypic, was named by Mr. Rolfe of the Kew Herbarium after Mr. F. W. Moore of the

the spike is erect and stiff; the colour of the flowers is dull brown with a pale centre. There are but two plants of *Moorea* known in cultivation, one at Glasnevin and one in the Kew collection. The latter plant has six pseudo-bulbs 2 to 3½ inches long, dull green, and ribbed. Three of the bulbs have each a pair of leaves at the apex; the leaves are about 18 inches long and 4 inches broad at the middle, tapering at both ends, pale green, and stiff. It is in a small pot, and is growing well, so that at no very future date we may hope to have another opportunity of seeing this very interesting Orchid in flower.—C. K.



CHRYSANTHEMUM SHOWS.

THE following Chrysanthemum Shows, which have been advertised in our columns, will be held during the ensuing week. For the convenience of readers we append the names and addresses of the respective Secretaries. Those marked with an * opened on November 2nd, but will be continued to-day (Thursday).

- * Nov. 3.—Ascot, Sunningdale, and District. F. Patton, Ascot.
- * „ 3 and 4.—Portsmouth. F. Power, 20, Queen Street, Portsea, Portsmouth.
- „ 4 and 5.—Crystal Palace. W. G. Head, Crystal Palace, Sydenham.
- „ 4 and 5.—Bolton. J. Hicks, Markland, Hill Lane, Heaton, Bolton.
- „ 4 and 5.—Leeds Paxton. W. Appleby, The Grove, Headingley, Leeds.
- „ 8, 9, 10.—National (Royal Aquarium). R. Dean, Ranelagh Road, Ealing.
- „ 8 and 9.—Kingston and Surbiton. Geo. Woodgate, Warren House Gardens, Kingston Hill.
- „ 9 „ 10.—South Shields. Bernard Cowan, Horton, South Shields.
- „ 9 „ 10.—Bournemouth. Jas. Spong, Lindisfarne Gardens, Bournemouth.
- „ 10.—Calne. Fred. C. Henley, Calne.

REPORTS OF SHOWS.

DURING the Chrysanthemum season we are favoured with reports of many Shows. Several newspaper cuttings containing lengthy prize lists are also forwarded. These can seldom be used, we prefer short descriptive accounts with the names of prizewinners in the chief classes, also when practicable the names of the varieties in leading first prize stands. The co-operation of friends on the lines indicated will be much appreciated.

THE NATIONAL CHRYSANTHEMUM SOCIETY AND ITS CERTIFICATES.

I TRUST I may be permitted briefly to refer to the article under this heading on page 378 of your last issue for the purpose of throwing a little more light upon certain matters of fact.

1, In your second paragraph you seem to make it appear as if this was the first appearance of Beauty of Exmouth before the Floral Committee of the National Chrysanthemum Society. It was shown before that body by Mr. Godfrey on October 28th of last year, when the Committee wished to see it again in better condition. It was again submitted on November 10th, but not in condition to obtain a certificate. The Floral Committee, therefore, naturally expected it would come before them again this season, and their expectation was realised.

2, That a member of the Committee should have spoken disparagingly of the flower before it went before the Committee is regrettable; but I have observed the same at the meetings of the Floral Committee of the Royal Horticultural Society. As a member of the latter body I have been sometimes asked to look at a seedling and say whether it was in condition to go before the Committee for a certificate, and I have honestly advised the exhibitor not to prematurely damage the reputation of a good thing by presenting it in an undeveloped condition, but to grow it again another season, and show it in better form. It was, no doubt, with the same motive a member of the Floral Committee advised Mr. Godfrey to place Duchess of Devonshire "under the table." What I do warmly condemn is the expression I have heard from members of the Floral Committee of the R.H.S. and the N.C.S., "I have better than that at home," and I always protest against the use of such an expression.

3, There is nothing unusual or improper in a member of the Floral Committee opposing the granting of a certificate on the ground that the flower is not sufficiently distinct, and we have reason to be grateful to men having a particular knowledge for expressing this view. Having regard to the rapid rate at which new Japanese Chrysanthemums accumulate, it is very necessary the greatest check should be placed upon making records to varieties too much alike.

4, Mr. Godfrey was not appealed to in order to defend the distinctness of his flower. He was called forward by the chairman at my request to testify to Beauty of Exmouth being a *bonâ fide* English seedling; as the Committee unfortunately have knowledge of new continental and American varieties being palmed off as home-raised seedlings. The first vote was taken without some of the members being aware a certificate had been proposed, and some hesitated being desirous of testing whether Beauty of Exmouth was distinct from Florence Davis or not. A bloom of the latter was sent for, and I put the question to Mr. Godfrey, "Did he regard his variety as quite distinct?" and he answered, "Yes." The motion for a certificate was then put and carried by a large majority.

5, The matters in dispute between Mr. Godfrey and the "chief opponent of his blooms" I will not touch upon, they being *sub judice*;

but the occurrence illustrates the inconvenience resulting from permitting exhibitors to gather about the table at which the Floral Committee sit, and become listeners to what is said. The practice of the Committee has been so aboveboard, and has in consequence commanded so much confidence, as to encourage the sending to its meetings a very large and increasing number of new flowers for opinion, so that it rather courted publicity than otherwise. But the action taken by Mr. Godfrey in making public expressions intended only for the ear of the Committee, and in the confidence of privacy, has made it necessary that the meetings of the Committee shall be, as they were intended to be, strictly private; and for the future exhibitors and others not officially retained will have to withdraw, so that members of the Committee may feel at liberty to express themselves with freedom. The inception of the Floral Committee of the N.C.S. was largely my own, and had something to do with framing its rules and regulations. I have been a member of it since its formation, and have come to form a high opinion of its fairness and value. It is in this spirit I have penned the foregoing lines.

6, In conclusion I cannot but express my surprise that Mr. Godfrey made no complaint to me of what had occurred, though I conversed with him two or three times after the rising of the Committee. I think he should have addressed any complaint in the first instance to the Secretary of the Society.—RICHARD DEAN, *Secretary National Chrysanthemum Society*.

[Mr. Dean represents his view of the case with ability and an evident desire to be fair to all concerned. We have pleasure in publishing his communication, and have only a few small comments to append.

1, If Mr. Dean will read our "second paragraph" again he will find these words:—"We are informed that it had been previously exhibited."

2, That members of floral committees should speak disparagingly of flowers prior to their coming before them for adjudication is, as our correspondent states, most "regrettable," and the allegation that this is done at the meetings of the Royal Horticultural Society is obviously no justification of the practice wherever it may prevail. It is quite another thing when an exhibitor asks for friendly advice as to procedure, and we are quite sure this would be given with perfect honesty and no ulterior motive by our correspondent. We are also ready to believe with Mr. Dean that the advice given respecting the Duchess of Devonshire may have been on the lines he suggests.

3, Certainly there is nothing improper in a member of committee opposing the granting of a certificate; on the contrary, it is his duty to do so in accordance with his judgment so long as he is prompted by undoubted purity of motive. If he is animated by any other feeling, and especially if it has a bearing on his trade interests, every honourable man will admit that such an individual, whoever he may be, is unfit to serve on any committee of this nature whatsoever.

4, Our correspondent says Mr. Godfrey was "not appealed to in order to defend the distinctness of his flower." The words "on being appealed to" were written in our proof as a necessary correction by a high official of the N.C.S., though it is clear that Mr. Dean did not see them.

5, We concur in the expression relative to the inconvenience arising from the presence of exhibitors at committee tables, except for purposes of examination, and they should retire pending deliberations and decisions.

6, That is a question for Mr. Godfrey, but we think he is acquainted with a case that has been brought to the notice of Mr. Dean, in which a member of the Floral Committee threatens an exhibitor by letter that if he does not comply with a certain request he (the member) would take steps to prevent this trade exhibitor showing at the National Chrysanthemum Society. We also think Mr. Godfrey is aware that the officials declined to take cognisance of this case because it was of a personal nature. It was, and a great deal more besides, for it was a threat which could only have one tendency, viz., to injure a rival tradesman in his business.]

NATIONAL CHRYSANTHEMUM SOCIETY—OCTOBER 26TH.

AS is usual at the end of October a considerable number of new varieties of Chrysanthemums was submitted for examination by the Floral Committee at their meeting on the above date. Foremost came three of the fine seedling Japs raised by Mr. William Seward, The Firs, Hanwell, consisting of William Seward, a brilliant reddish crimson reflexed variety, which had already received an award of merit from the Royal Horticultural Society, and on this occasion was awarded a first-class certificate of merit, a variety that improves in point of size and colour; John Shrimpton, rich chestnut crimson, something of the colour of Cullingfordi, very bright, and a large and full reflexed Jap, also awarded a first-class certificate; Lizzie Seward, rich amaranth crimson with a silvery reverse, bright in colour and highly promising: the Committee wished to see it again. Mr. C. Blick, gardener to M. R. Smith, Esq., Hayes, Kent, and Mr. E. Beckett, The Gardens, Aldenham House, Elstree, both sent Japanese W. H. Atkinson, bright coral red and salmon, in some flowers deepening to cerise, novel and distinct in colour. The former received a first-class certificate of merit, his blooms being regarded as most developed, though the Aldenham flowers were rather the brightest. Mr. Beckett also had H. F. Jars, a bright Jap, which was commended for its colour.

From Mr. W. Herbert Fowler, Claremont, Taunton, came Mrs. Herbert Fowler, a very fine Jap, pale amaranth with silvery pink reverse, large and full; awarded a first-class certificate of merit. Mr. George Foster, Glendaragh Gardens, Teignmouth, sent W. H. Veale, a distinct sport from Sœur

Dorotheé Souille, in the way of Jean Marty, and a vote of thanks was awarded to him. From M. Ernest Calvat, Grenoble, came three new Japs.—viz., Madame Vivand Morel, a large creamy white incurved variety; Madame Rey, the basal florets deep pink with a light centre; and L'Isere, creamy white tinted with pink. It should be said that M. Calvat's method of packing, and the distance the blooms have to travel, militate against the flowers being put before the Committee under favourable conditions. A vote of thanks was accorded. From C. E. Shca, Esq., The Elms, Foot's Cray, came two Japanese varieties—viz., Gaetano Guelphi, a full ivory-white flower with a yellow centre, and Sylphide, yellow, bright in colour, and reflexed in the way of Sun-flower.

A number of new varieties was sent by Mr. H. J. Jones, Ryecroft Nursery, Lewisham. A first-class certificate was awarded to a plant of a dwarf growing decorative Jap named Ryecroft Glory, raised from seed sown in December, 1891, of a bright golden yellow colour, and singularly free; also to Jap Colonel W. B. Smith, a fine and striking flower of the Edwin Molyneux type, orange with golden reverse; very fine and distinct. Mr. Jones likewise had a white sport from Louis Boehmer, named Child of the Two Worlds, and Comte F. Lurani, the petals lined with white and pink like a Comet Aster, very pretty and distinct; both of which the Committee wished to see again. Several other new varieties were also staged by Mr. Jones. From Mr. W. Wells, Earlswood Nurseries, came a number of seedling single varieties, but to a considerable extent semi-double; several of them were bright in colour. Japanese John Dyer the Committee wished to see again. Mr. Wells also had a white sport from Vivand Morel, named Mrs. W. R. Wells, and it was said that it is characteristic of this variety to come white from an early bud. In proof of this Mr. Norman Davis sent two plants, each with three blooms; and in both cases one was rose coloured and the other two white. The Committee thought that under the circumstances it was inexpedient to recognise Mrs. W. R. Wells as a fixed white sport. A vote of thanks was passed to Mr. Wells for his collection.

Mr. C. Gibson, The Gardens, Morden Park, Mitcham, sent two new Japs—viz., La Belle d'Algers, a large reflexed variety, ivory flushed with pink; and Dey of Algiers, a large semi-double flower of the character of E. Molyneux. Messrs. Pitcher & Manda received a first-class certificate of merit for Japanese W. A. Manda as a hairy or spiny variety; large, and deep golden yellow in colour. This variety appears in the annual report of the Society as having been certificated last year; but was inserted in error. The same exhibitors also had Jap George Savage, white with primrose centre, which the Committee wished to see again; and some other varieties which will doubtless be seen later in better condition.

The following addition to Rule 3 was on the motion of the Secretary, seconded by Mr. George Stevens, unanimously adopted:—"And no persons but those officially retained are allowed to be present at the sittings of the Committee."

BIRMINGHAM CHRYSANTHEMUM SHOW AND THE DIVISION OF THE CUT BLOOM CLASSES.

MR. MOLYNEUX, in his remarks anent the Birmingham Show in the *Journal* for October 20th, says that it is very difficult to assign a reason for the division of the class for forty-eight cut blooms. He will, therefore, perhaps pardon me if I draw his attention to the *Journal* for March 10th last, where on page 185, he will find very tangible reasons given for the change—viz., to simplify the judging by placing Japanese against Japanese, and incurved against incurved, and to give increased opportunities to those exhibitors who cannot manage to stage a forty-eight stand, but who can manage a twenty-four, and this, too, without excluding those who can manage both. The Birmingham Committee certainly do not want to discourage the large growers, and surely these latter will not be afraid of the competition of the smaller ones.

I have no doubt that Mr. Molyneux can remember occasions when judging forty-eight-bloom classes—nay, and even when exhibiting himself—that if the first and second prize lot had been taken and divided into two classes, one of twenty-four Japanese and one of twenty-four incurved, and each section rejudged on their respective merits, he would sometimes have found that the first prizewinner in the forty-eight would not have been the first-prizewinner in both classes when divided in this way. It is not when one exhibitor's Japanese and incurved are superior to his opponent's that the difficulty in judging occurs, but when one is superior in Japs and the other superior in incurved, and yet so closely matched on the whole that it is difficult to see which is first. Then in that case much depends upon the relative merits of the two sections in the estimation of the judges. One may think there is nothing in the world like incurves, while the other may think there is nothing so graceful and beautiful as the Japanese, but when the competition is respectively confined to each section, then it is immaterial which is the greatest favourite with the judges.

After twenty years' experience in the management of Chrysanthemum shows I am thoroughly convinced that the more distinctly the various sections are classified, and the less they are mixed up, the greater will be the competition, the more simple the judging, the greater satisfaction prevail amongst the exhibitors when the judging is completed, and the more likely will the successful exhibitors be able to see the points by which they have won and the unsuccessful ones why they have lost, the latter especially being very important if harmony is to prevail. For any show to be a success committees should, in framing their schedules, first offer the largest possible prizes their means will allow; secondly, open the widest field possible for competition; thirdly, so classify the exhibits

that the judging shall be as simple as possible; and, lastly, make the conditions so clear and distinct that it shall be impossible not to understand them. This done, with good management, success is sure to follow. We in Birmingham, although successful, do not pretend to be infallible, but content ourselves that time will prove all things.—J. HUGHES.

THE SHOW BOARD CONTROVERSY.

I HAVE read with much interest the remarks of "A. D." (page 379, *Journal of Horticulture*) touching his interview with Mr. George Woodgate with reference to the above question. It must not be inferred from the fact that I prepared a paper (by request) for the recent Conference of the National Chrysanthemum Society, advocating the enlargement of the show board for Japanese Chrysanthemums, that I am indifferent to the considerations urged by "A. D." and the Secretary of the Kingston Chrysanthemum Society. On the contrary, so strongly do I feel that the undue preference often given at our shows to mere size directly tends to banish from the exhibitor's collection many of the most refined and beautiful varieties, merely on account of their relative smallness, that I have no hesitation in saying that if the alternatives must be either to part with these varieties in order to make room for a sufficient army of the "big ones" or to discontinue showing altogether, the latter alternative ought to be accepted. In theory we know that a perfect bloom of Criterion is supposed to receive as much consideration as an equally fine flower of Vivand Morel, but who, may I ask, would have the hardihood to put this theory into practice on a stand of twelve blooms? But while claiming justice and equality for the smaller varieties, we must not accord other treatment to their larger rivals. I suppose that it will be generally conceded that it is idle, if indeed it were desirable, to seek to exclude the modern race of giants from the exhibition tables—as well might we try to induce water to run up hill. And if their exhibition be admitted, the stands upon which they are to be presented to the judge must be large enough to permit of a really effective judgment. If it be conceded (and the late Conference considered the point to be established) that the show boards originally designed for the incurved section are inadequate for the requirements of the present day race of Japanese blooms, then minor considerations must be subordinated, and an essential of effective judging must not be refused because the so-called "concession" may be thought to have the indirect effect of "putting a premium on size and breadth at the expense of depth, refinement, and beauty."

Passing by the question whether "depth" will not, in fact, be better estimated upon a board whereon the blooms stand free, I must reply that the salvation of the smaller varieties must rest upon some other and better basis than the refusal of a needed reform to a large and constantly increasing class of exhibition blooms. That every effort should be made to retain such gems as Criterion, Florence Percy, the Lacroix family, and Martha Harding, I am strongly of opinion, and whether the proposals of Mr. Woodgate would serve to ensure this result is a question well worthy of consideration. Certainly a practical step in the right direction has been taken in the decision of the N.C.S. to require "distinct" varieties in the class for forty-eight Japanese. This must serve to bring back many varieties which have almost disappeared from the exhibition tables, but necessarily the effect of this regulation will be limited to those who contemplate competition in this particular class, and something further is certainly required, but while this "something" is being sought for I think that it would be impolitic and unwise to seek to make the matter in any way dependent upon the question raised in this discussion. The cause of the smaller varieties can well afford to stand on its own intrinsic merits.

Of course it is not necessarily incumbent on the Kingston Chrysanthemum Society to adopt the results of the N.C. Society's Conference, but it is obviously desirable that uniformity of practice upon the subject should, if it be possible, prevail throughout the country. That the Committee of the National Chrysanthemum Society will adopt the practically unanimous decisions of the Conference which itself had called, I may infer as a safe conclusion, otherwise one would scarcely realise the meaning and utility of the gathering of the Conference at all.

The suggestion that a stand of the proposed new regulation size, filled with appropriate blooms, should be exhibited at the leading Chrysanthemum shows next month is a good one, and I hope to see it generally adopted.—CHARLES E. SHEA, *The Elms, Foot's Cray, Kent*.

CHRYSANTHEMUM SHOWS AND GARDEN CHARITIES.

YOU gave last week a list of no less than eighty-seven Chrysanthemum shows, most of them of two days duration, which will be held during the present month. Very probably there are some forty or fifty more smaller ones that do not get so much notice. But supposing the shows reach a hundred, here is a field which it does seem ought to be worked in the interest of our garden charities. Why, if each show could be made to produce only £2 that would give £200 to be divided between the Gardeners' Benevolent and the Gardeners' Orphan Funds. That seems to be, however, a very low average, and did the hundred of exhibitors only return to the Fund's boxes, or through the local secretaries, 3 per cent. of their winnings in the respective competitions, the sum named would be doubled. When I was in Mr. H. J. Jones' fine show house of Chrysanthemums last week at Lewisham he showed me collecting boxes for the Orphan Fund fastened on to the respective doors, and told me that in the case of mere visitors, and not customers, he drew their attention to the boxes in the hope that they would make some little contribution. What he does many others could do; in fact, in hundreds of private places Chrysanthemum collec-

tions might be thrown open to the public expressly to aid the garden charities. It is too late to work this field fully this season perhaps, but local or show committees and private or trade growers may take the hint now and accomplish something. The time for the election of candidates on to the Funds is coming near, and the greater the pecuniary help the more candidates can be elected.—A. D.

Calls on Celebrities.

ON the eve of the Chrysanthemum season its prospects are always discussed with interest, and the condition of each grower's plants is a matter of lively speculation; a *Journal* representative has therefore made calls on some of the leading growers, with a view to gathering readable information for the benefit of fellow cultivators. He finds a general complaint that the plants are late, but everything points to a season of quite average excellence, and of more than average interest. The number of new varieties is greater than ever. The air is full of rumours about extraordinary novelties, but that is a chronic condition after all. The American, French, and German contributions are liberal to a degree, and there will also be a considerable number of British seedlings to take stock of. The latter is a welcome feature, and the products of home hybridisation will be looked for with special interest.

MR. H. J. JONES.

If there is one man in the Chrysanthemum world more than another who may view his work with pride it is Mr. H. J. Jones. A little boastfulness might even be pardonable in the face of what he has accomplished, but Mr. J. is as modest as he is able, and leaves others to do the praising. So extraordinary has been the growth of his business and the development of his collection that it might almost be styled phenomenal. Two grand houses, each 103 feet long by 25 feet wide, are filled with plants in robust health. The structures are of a most substantial character, and the system of ventilation is a splendid one. The main show house now contains about 3500 plants, arranged in two broad banks, with a central path between them, and the effect they produce may almost be described as magnificent even at this early period. What it will be about the middle of November every Chrysanthemum lover should see for himself. The Ryecroft Nursery is at Hither Green, Lewisham, and a very good way of getting to it is to take the train to Lewisham Junction from Charing Cross, Cannon Street, or London Bridge, then walk or take the tram to Hither Green. A few minutes suffice in either case. Mr. Jones has not been settled there long, but his place is already famous, and there is no difficulty in finding him. During the years that he has been struggling for the position in the Chrysanthemum world there is one thing that his worst enemy could never deny him, and that is the credit of being a tremendous worker. His career has been chequered, but through good and evil report he has striven hard and unceasingly; all the more pleasant is it therefore to record that fortune is now carrying him forward to such brilliant success.

All that money, work, and energy can do to get a complete collection of Chrysanthemums together is being done by Mr. Jones. He has all the leading varieties, together with a large number of novelties. The season being somewhat late, many of the best kinds were not out at the time of our representative's call; nevertheless, there was plenty to admire. It will be more interesting, no doubt, to make a few brief references to the novelties than to devote space to the varieties which are familiar. Mr. J. Lyne will perhaps be considered an improved Mons. Elliott. It is a dwarf, strong grower, with large bronze coloured flowers. White Louis Boehler at once arrests attention. Mrs. Alpheus Hardy has given us a considerable amount of trouble, but here we have a pure white with hairy florets having the sturdy growth and strong constitution of the "pink Ostrich Plume," and there is no doubt that a great demand will spring up for it. Mr. Jones has a good many plants, and the character is the same in them all. President Carnot is a promising incurved. It was sent out as a crimson, but that colour is in the upper surface of the petal and hidden through the incurving; the flower appears, therefore, as a greyish buff. It is large and massive. Mrs. Harman Payne, a deep rose Japanese, is coming very fine, and another most promising variety of the same section is Comte F. Lurani, which has long broad pale florets with a rosy lilac margin, and is dwarf and sturdy. Ethel Paul (J), though one of the now numerous army of whites, is distinct in character, having broad incurving florets. Sylphide (J), is notable for its beautiful and perfectly distinct shade of yellow, which charms everyone who sees it. Amos Perry (J), is another promising yellow. It is of the character of Coronet, but comes better. Ami Jules Chrétien (J), is noteworthy from its rich maroon colouring. Ryecroft Glory (J), will prove to be a leading market sort. It is dwarf and bushy, with abundance of bright yellow flowers. It was in bloom seven weeks ago, and now has an abundant second crop. The seed was sown on the 2nd of February. Mons. Bredernier (J), is a rich carmine flower, and Gaetano Guelphi (J), a fine white with curled florets. The "yellow Lacroix," Mr. C. E. Shea, is in fine condition. It is remarkable, like the old white, for its freedom of blooming. Colonel Smith was not fully out, but was giving rich promise of future excellence, and the same may be said of J. Stanborough Dibben, a wonderfully dwarf and sturdy grower. Miss Watson (J), is a yellow with the characters of Avalanche.

These are but a few out of many. Let everyone who has an opportunity or can make one go and see for himself what Mr. Jones is doing. A visit will be richly repaid, and the general verdict will probably be that the Lewisham grower has secured a long lead amongst metropolitan Chrysanthemum growers.

MESSRS. REID & BORNEMANN.

Trewsbury Road is a broad and pleasant thoroughfare, half a mile, or a little less, from Sydenham station, and in it is situated the nursery of Messrs. Reid & Bornemann, who have in a very short time made themselves a reputation in the Chrysanthemum world. They began with ideas of grouping which differed from those usually prevailing, and success smiled upon their efforts to carry them into effect from the first. They believed, for one thing, in quality of bloom, which to many had been a consideration of very little importance. Thus not only were their plants always effectively arranged, but there was something in the groups which repaid a close as well as a general survey. Next they attached due weight to finish. Instead of a "beggarly array" of bare stems in the front, their groups were conspicuous for lines of dwarf plants 1 to 2 feet high, well clothed with foliage and carrying excellent flowers. These imparted an appearance of completeness which was at once pleasing and natural. Their good deeds of this nature were rewarded with a shower of first prizes and a reputation that has doubtless proved still more valuable to them.

Messrs. Reid & Bornemann grow about 2500 plants, to afford selections for showing. This may seem a very large number, considering that they practically restrict themselves to grouping; but they have a very good foreign connection, and at the present time have four important continental exhibitions to engage their attention apart from those which they will compete at in England. They have several houses of plants, and assuredly will be even harder to beat this season than they have been previously, for they have a great variety of material, admirably grown, and carrying fine flowers. The exhibitor who sets up a group good enough to defeat them will achieve a noteworthy feat. The *Journal* representative paid a somewhat early visit, and the collection was not, therefore, in full flower; but there were many new and old varieties, either open or opening. One of the specially good things of the collection was Gloire du Rocher, which has turned out to be a splendid acquisition. It is a fine grower, and the beautiful chestnut red flowers have a very marked individuality. Avalanche is good, as usual—dwarf, sturdy plants, bearing beautiful blooms. Hamlet, with its distinct rosy-red flowers, very freely produced, is also noteworthy. W. H. Lincoln is very fine; it is a dwarf strong grower, may be had either in September, October, or November, and is rapidly earning the character of being the best yellow Japanese in cultivation. Alberic Lunden is another sterling acquisition; it is carrying some splendid blooms, and the rich purplish crimson hue is most effective; Vivian Morel and Jeanne Délaux are coming on well, and so is Mr. A. H. Neve; Vivian Morel has white and pink flowers on the same plant, the former being produced by the early bud; Sunflower and Etoile de Lyon are two other old varieties that promise well; and W. Tricker should be noted as consistently good—it is a valuable early bloomer, and one of the most useful of all the Japanese. The dwarf plants so effectively used by the firm are looking remarkably well. They range from 6 inches to 2 feet high, and have excellent flowers. Val d'Andorre, Avalanche, Mons. Freeman, Gloire du Rocher, E. Molyneux, and Alberic Lunden are amongst the best of them.

The new varieties are very numerous and of the usual character, a few good, many moderate, some bad; a few of the most promising ones which are well worth further trial, are noted. W. Roessing is a pure white Japanese of great size with very broad florets. Director Kowallek, a tall incurved Japanese, white flaked with rose, may prove to be good. Uranus and Mons. J. Moulins are decorative varieties with divided antler-like florets, the former white, the latter light chestnut. Colonel Smith is the best of all the novelties, it is a real acquisition. It will be remembered as a large Japanese with distinct bronzy amber flowers exhibited a year or two ago. It is very vigorous, its only fault being too tall growth. Madame Léon Hasse is a decorative Japanese with long slender pointed florets of a tawny bronze hue. Duchess of Anhalt Dessau is a seedling Japanese of Messrs. Reid and Bornemann. It is of the Condor and Etoile de Lyon type, having long broad florets, white with a rosy purple margin. Madame Elizabeth Labah is a creamy Japanese with very large flowers, and Belle Hickey is a promising American importation. It is a pure white Japanese with narrow incurving florets, is an excellent grower and blooms freely.

MESSRS. CANNELL & SONS.

A home for flowers would be a dull and cheerless one at this season of the year if it contained no Chrysanthemums, and as that at Swanley is never dull and never cheerless it goes without further saying that they are well represented. Messrs. Cannell & Sons are not in the habit of doing things by halves, and they have taken a bold step in the erection of a splendid show house 160 long by 25 feet wide. This being now full of plants is merging into a dream of beauty. There are over 3000 of them in robust health and developing fine blooms. The season is late, and so the flowers were backward on an early call being made, but many were open or opening.

The king of the novelties beyond all doubt was Colonel Smith, which Messrs. Cannell sent out a year or two ago. It is a Japanese of commanding excellence, the growth being very sturdy, the height medium, the flowers large, and the florets a beautiful bronze hue tipped with gold. It is one of the greatest acquisitions of recent years. The Swanley growers have a large stock of it, and the plants arranged here and there in the collection all stand out distinct and effective. Mrs. Harman Payne (J.) is a dwarf strong grower, and is bearing some fine blooms. The colour is rosy lilac, the outer surface of the florets rosy mauve. Mohawk (J.), a dwarf American with bronzy flowers, seems

likely to turn out good. Mrs. G. W. Childs (J.), brownish crimson with bronzy red reverse, is very rich in colour and decidedly effective. Madame Ed. Rey is an incurved of great promise. The colour closely resembles that of Hero of Stoke Newington, but the flower is much larger and is very conspicuous for the great breadth and substance of the petals. It is one of Calvat's, and may prove an acquisition; certainly it is well worth further trial. Otto Bollif (J.) is in the style of Marsa, a large flower, rosy mauve in colour, with numerous splashings. Delaware (A.) has been seen on several occasions, and its merits are becoming pretty well known. At Swanley it is splendid. The pure white flowers with their lemon centre are of the largest size. L'Ami Etienne (J.-i.) is another very promising variety of Calvat's raising. The flowers are large and of a delightful silvery blush shade. President Borrel (J.) comes from the same grower and has deep rose flowers. Julius Roehrs (J.) is an American of dwarf growth and with large flowers of a bright carmine rose colour. Noel Pragnell (i.), the "Striped Empress," is a pleasing bloom with mauve flakings along the petals, but is hardly likely to become very popular. One good self is worth twenty mixtures. Robert Cannell (J.-i.) is represented by some very fine blooms. Its brownish bronze flowers are now pretty familiar, and they are very effective in a mixed collection. Mrs. H. W. Goulden (J.-i.) will strike most persons as a charming flower, its silvery blush hue being most distinct. Perhaps its colour may be a little too delicate for some, but be that as it may we can very well do with some more refined colours. Lilian Russell (J.) is an American with rich mauve flowers that is very likely to secure a prominent place. Charles Gongnon (J.) is a flower of the Lady Selborne type, but the colour is a reddish bronze. Mrs. J. S. Fogg, the yellow Japanese which Mr. Blair showed so well last year, is noteworthy. It is pretty certain to be seen in several prize stands this season. Anna Dorner (J.) is another of the Trans-atlantic contingent. It is a dwarf strong grower and the colour is as near cream as anything else, perhaps a little nearer. Kentish Yellow, the "Yellow Elaine," is very bright and effective. Hetty Dean (J.) is a white sport from President Hyde. Amos Perry (J.) is so promising that it appears likely to secure a high place among the yellows, and we are now getting so many of these that commoners will have no chance. Golden Ball looks like turning out specially valuable for specimens from its style of growth and blooming. John Dyer (J.) is a very large and fine bronze variety that growers will probably find themselves able to utilise with advantage. Mdle. Marie Recoura (J.) is a fine white of the Etoile de Lyon type, and Vice-President Calvat (J.) is a very large rich crimson.

The two bright particular stars of the collection among the other varieties were Vivian Morel and W. Tricker. Grand variety as the former is it is almost eclipsed by the American. Both are very dwarf and sturdy growers, bear large massive blooms of great depth, and are pleasing in colour. There is no doubt whatever that W. Tricker is not only one of the first Japanese of recent introduction, but one of the most valuable varieties in cultivation. It appears to be consistently good everywhere. It is almost superfluous to dwell on the character of Messrs. Cannell's plants, for good culture reigns supreme in every department at Swanley, and it is hardly likely that an exception would be made with the Chrysanthemums. They are indeed fine, and a credit to the growers. The standing invitation is "Come and see," and whoever responds will find in the Chrysanthemums and the magnificent display of Zonals a sufficient reward, even if he travelled from the uttermost end of the country.

MR. W. PIERCY.

Mr. Piercy's speciality is early bloomers, and in the small structure on his premises at Beadnell Road, Forest Hill, he has, and has had for a considerable time past, a very brilliant display. He takes pains to keep his collection up to date, so that a visit to him is always repaid by an inspection of the newest and best varieties in the early flowering section. He is out of all sympathy with disbudding, and his plants are all full of bloom, which is valuable for making his house gay, and also for cutting. The demand for cut Chrysanthemums is now so great that there is very little doubt that the culture of select early varieties for supplying the want indicated could be made a profitable proceeding.

Amongst the best varieties in Mr. Piercy's collection were the following:—Gustave Gruenewald, figured in the *Journal* a few weeks ago; it has been in bloom since May, and will probably prove a great acquisition; Georges Devered, a beautiful yellow Japanese that has also been flowering since May; Mdle. Renée Cohn, a new and very promising pale rose Japanese; Mons. G. de Duber, bronzy yellow, in the way of Pynaert van Geert, but freer; Ruby King, light brownish red, dwarf, robust, and free, early, and likely to prove valuable for market; Mrs. Hicks Arnold, soft lilac, a most profuse bloomer; O. J. Quintus, rosy mauve, the plant a mass of bloom, this variety is now well known; Madame Dufossé, bronze, very free, a fine decorative variety; Carry Denny, bronzy yellow, full of bloom; Souvenir de M. Menier, fine dark crimson; Eulalie Morel, rosy lilac Japanese, plants were blooming in August from cuttings inserted in April; Henri Devered, bronzy yellow, bloomed in August from cuttings struck on May 5th; Harvest Queen, a useful white market Pompon; Mons. Jacob, crimson reflexed; and Maxime de la Rocheterie, light bronzy chestnut, a fine full bloom.

Mr. Piercy has worked well to popularise the class of his choice, and deserves the gratitude of all Chrysanthemum lovers.

VIVIAN MOREL.

As there appears to be several sports about of this beautiful variety I herewith send you a partly expanded bloom (which has, unfortunately, commenced to damp) of a sport which has made its appearance in these

gardens. I saw Mr. Wells' plant at the National, and I think this is more of a primrose shade than the one shown by him. I hope to grow some good blooms of it next season.—G. TRINDER, *Dogmersfield Gardens, Winchester.*

[We have seen several so-called sports of this variety, but some of them were mere variations from different buds, similar to examples sometimes afforded by the Princess of Wales. The bloom sent differs somewhat from others that have come under our notice by its primrose colour, but it was so damaged that no opinion could be formed of its true character.]

CHRYSANTHEMUM PIERCY'S SEEDLING.

I CAN fully endorse all that "J. J. C." (page 379) says in favour of this variety. I have grown it for two years, and find it most valuable both in the garden as a decorative flower and for providing cut flowers. Its only equal for free flowering qualities seems to be Flora, but, of course, the colour is quite distinct, so that both may be grown with advantage. By the way, why is Flora known also as Late Flora? I take them to be the same. There is a very hardy late flowering purple Chrysanthemum grown in the cottage gardens here which is very valuable for decoration late in the year. It will not be in flower for some time, but I shall endeavour to get it named when in bloom. It grows into great bushes and receives the roughest treatment only.—S. ARNOTT, *Dumfries.*

CHRYSANTHEMUMS IN NORTH WALES.

MR. PRICE, the gardener at Pontryffyd, the residence of Col. Mesham, is well known in the locality as an enthusiastic grower of Chrysanthemums, and his collection this season appears to excel anything yet achieved. About 250 plants are grown, and, although not an exhibitor, he would prove a very dangerous opponent at Liverpool next month, judging by the sturdy and healthy appearance of the plants as seen last week.

The plants are artistically arranged in the front of a large Peach house, and range in height from 18 inches to 5 feet, each plant carrying from four to six blooms. A great feature in Mr. Price's culture is, that he has timed his blooms, so that they appear to be all opening simultaneously. Among the newer varieties grown are Bouquet de Dame, Vivand Morel, Florence Davis, and Gloire du Rocher, all promising well.—VISITOR.

CHRYSANTHEMUMS AT LEICESTER.

THE other day I asked a Leicester grower how his "Mums" were this year. "I have never seen better," was the reply, and on visiting some of the larger growers of the district this answer will suit them exactly.

ABBEY PARK.

The collection here will be quite able to sustain its reputation, and in the course of a week or so will be the delight of the eager crowd who visit the "Mum" house there. Altogether there are about 1500 plants, and a more healthy and clean batch could not be found, and both Mr. Burn and also Mr. Burton, his assistant, are to be congratulated in providing such a treat for Leicester people.

AT HUGHENDEN.

Mr. George Oliver has an excellent collection under the care of Mr. W. Calvert, and if good buds are anything to judge by he will be a strong opponent in the local classes at the Leicester Show. At present he has some grand blooms of Louis Boehmer which would not disgrace a show board. These, with the excellent bloom of Mrs. Alpheus Hardy I saw at Glenwood last year, have done much to remove the prejudice I previously held to the "hairy" section. The Japs are in strong force, and contain some good and promising flowers. The incurved, which are perhaps a few days later, are well represented by the leading varieties. A very noticeable feature is the foliage—every plant is clothed to the bottom, and another is the quantity of small plants varying from 6 inches to a foot in height, carrying magnificent buds or blooms. The majority of these were not struck until August. Altogether, there is every prospect of Hughenden retaining if not strengthening its position in the Chrysanthemum world at the forthcoming show.

AMONGST THE COTTAGERS.

It is almost wonderful what a quantity of good blooms can be obtained by some of them in so limited a space. Mr. Day of Aylestone Park has some very promising buds of Avalanche, La Croix, F. A. Davis, the new W. H. Lincoln, Vivand Morel, grand Stanstead White, and A. H. Neve in the Japs. The Princess family are excellent, but the Queens are hardly up to last year's mark. Mr. H. Yeomans is bidding fair to improve his position in the working men's classes, while Messrs. J. Whait and H. Bell each have some good things, and will prove severe antagonists.—W. BELL, *Leicester.*

BATTERSEA PARK.

THE display of these most beautiful autumnal flowers in the above park is a magnificent one, and it will, doubtless, be visited by many thousands of people during the next few weeks. The estimable superintendent, Mr. Coppin, has made the most complete arrangements to permit the visitors to have a good view of both plants and flowers without any undue crushing which prevails at many similar exhibitions.

The collection comprises upwards of 1600 plants, amongst which all the leading varieties are well represented. The plants are arranged in a bank in a span-roofed house, divided in the centre. They are of a sturdy nature, and reflect great credit on Mr. Tilbury, the grower. Had there been sufficient space in the house to permit of a path running

completely round the plants, the flowers could have been seen to greater advantage. Perhaps ere another Chrysanthemum season dawns on us Mr. Coppin will have a far larger place at his disposal, when, doubtless, a most charming display will be opened for public inspection.

To name all the varieties in the collection would be almost impossible. A few of the most prominent include William Tricker, Charlotte de Montcabrier, Lord Alcester, Queen of England, Empress of India, and her golden sister, Emily Dale, John Doughty, Prince Alfred, Lord Wolseley, Hero of Stoke Newington, Dupont de L'eure, Mr. A. H. Neve, Reverie, Lady Trevor Lawrence, Lady Dorothy, Mrs. J. Wright, Flamme de Punch, Condor, Mrs. Wm. Waterer, Phœbus, Mons. R. Bahuant, Gloire du Rocher, J. S. Dibben, Gorgeous, Joseph Mahood, Alfred Chantrier, Avalanche, Ada Spaulding, George Daniels, President Hyde, Stanstead Surprise, Etoile de Lyon, Louis Boehmer, Triomphe du Nord, Mons. Garnier, Peter the Great, Val d'Andorre, La Frisure, Bouquet de Dame, Golden Beverley, and some very fine Mrs. Alphcus Hardy.

The plants are now in the very best of condition, and intending visitors would do well not to delay. The collection, taken as a whole, is a decided improvement on that of last year.

WATERLOW PARK.

Considering the fact that the plants have been grown under disadvantage, and that this is the first season, Mr. R. Curle, the superintendent, has just cause to be proud of the Chrysanthemums at the above park. Assisted by his grower, Mr. Webb, he has managed to work up a collection that must be given a place among the front ranks of those seen at the metropolitan parks. The plants are dwarf in habit, and have sturdy stems, bearing that thick dark green foliage which every grower likes to see.

As has been already mentioned in these pages about 1500 plants are grown, and the bulk of these are arranged in two banks in a lofty conservatory, a path running through the centre. Here we noted many fine blooms, and in the course of a week or so a large number of promising buds will have developed into splendid flowers. A few of the recent introductions are grown, but Mr. Curle acts wisely in giving the best old sorts a prominent place, in order to secure a good display. Amongst the Japanese, Elaine was carrying some excellent blooms, as also was that beautiful variety Source d'Or. For decorative purposes the last-named is still one of the best, the old gold colour of the flowers being most charming. Madame Louise Leroy has also done remarkably well here, and is now producing some splendid blooms, whilst scarcely less can be said of Belle Paule, Etoile de Lyon, Margot, Mons. Tarin, La Triomphante, Comte de Germiny, and Mons. W. Holmes. The rich blooms of the last-named appears to great advantage, showing well amongst those of a lighter character. Other varieties with good blooms include Stanstead Surprise, Eynsford White, Stanstead White, Holborn Beauty, and Mons. R. Bahuant. Vivian Morel was not out at the time of our visit, but gave promise of developing magnificent flowers.

Of incurved varieties the old Mrs. G. Rundle was exceedingly good, affording ample evidence that when well grown it is still worthy of a place in every collection. Mr. Bunn and Golden Beverley were also good. The same may be said of Lord Alcester, John Doughty, Queen of England, and many others too numerous to mention.

Besides those referred to there are several groups arranged in the vineries. Amongst these Pompons and various late kinds predominate, so that a display will be ensured for several weeks yet. These plants are healthy and well covered with buds, a few of which were expanding. One variety we particularly noticed as having hirsute florets, this being the old Chang, a dark orange red incurved Jap. This feature was equally as conspicuous as in many of the so-called "hairy-petalled" varieties. Other plants, including Fuchsias and succulents, are arranged on the front stages in the vineries, and these, with the Grapes still hanging, form a pleasing contrast to the Chrysanthemums.

THE TEMPLE GARDENS.

Chrysanthemums have so long been associated with the Inner Temple Gardens that the display seen there is generally considered to be one of the best within the metropolitan area. As in former years so in the present season, Mr. Newton has brought together a collection which fully maintains the reputation he has so long enjoyed, there being now some 700 plants on view. These are arranged in a new conservatory abutting the end of the terrace known as the King's Bench Walk. The Show is larger than usual and is full of interest. In addition to the best old varieties all the latest introductions of merit are grown, and these combined make an excellent display. The plants are remarkably healthy considering the fact that they were grown within a stone's throw of one of the busiest thoroughfares of the metropolis, and many of them are carrying exceedingly fine blooms.

Among the newer varieties W. Tricker is very good, the flowers being large and well coloured. Mons. R. Bahuant is also noticeable, and so is Gloire du Rocher, the latter being one of the best in the Show. The former is likewise carrying large blooms. Cesare Costa is very striking, the deep crimson flowers showing up well. Vivian Morel, too, is developing some grand blooms, and the same may be said of J. Stanborough Dibben and Annie Clibran. The last-named is a charming pink, and one of the prettiest in the collection. Ami Hoste appears to advantage, and so does W. H. Lincoln, one of the best yellows in cultivation. Of the older varieties Elaine has for some time past been flowering splendidly, and many plants are still carrying fine blooms. Lady Selborne also bears evidence of its utility, and the same applies

to numerous other early flowering varieties. Curiosity is splendid, and in a few days Stanstead White will be in grand condition.

In addition to the collection arranged in the conservatory alluded to there is a small group in an annexed structure, and amongst these we noticed Louise Boehmer, with promising buds. On the whole the Show is one of the best we have seen in these gardens.

THE BEAUTY OF EXMOUTH CASE.

At a meeting on Tuesday evening of the Sub-Committee appointed to examine into this case from materials with which we supplied them, the following resolution was unanimously adopted:—

"That inasmuch as the charges brought by the *Journal of Horticulture* against a member of the Floral Committee of the National Chrysanthemum Society are made in exceedingly vague terms, and as the letter upon which the charges were founded is not published, or the name of the member incriminated made publicly known, the sub-committee are unable to effectively deal with the matter. They consider that in justice to all concerned the publication of the letter is imperatively called for."

[The officials of the National Chrysanthemum Society have the requisite means for carrying out this resolution in the publication of the letter for circulation among the members of the Society, and that, we presume, is what is intended to be done as the natural result of the resolution. To this course we have not the slightest objection. The matter is in their hands. We made no charges, but placed in the hands of the officials the letter on which our references were founded, and they cannot say that these references went beyond the communication to which the resolution pertains.]

LITHOSPERMUM PROSTRATUM.

THIS is a useful plant for a rockery, and is well known in many gardens where rock plants are grown. The plant grows freely trailing



FIG. 55.—LITHOSPERMUM PROSTRATUM.

over the stones or rocks, and clothing them with its dark green shoots and foliage, among which appear the rich dark blue flowers in profusion. For the margins of borders where the soil is not too heavy, or the situation low and damp, this little Lithospermum is also well adapted, and blooms throughout the summer months and often late into autumn. The spray represented in the woodcut (fig. 55) was taken from a plant flowering as late as last week. The illustration shows the chief characters of foliage and flower.

CHRYSANTHEMUM SHOWS.

GOSPORT.—OCTOBER 27TH.

THE annual Exhibition of the Gosport and Alverstoke Society was opened on the date named in the Thorngate Hall, and considering the backwardness of the season was very creditable to all concerned.

Cut blooms were staged in tolerably large numbers and were of fairly

good quality. The principal class was that for twenty-four distinct varieties, half Japanese, and the remainder incurved. Mr. G. Hawkins, gardener to E. Laphorne, Esq., Gosport, was an easy winner, staging full heavy Japanese and fairly good incurved. Vivian Morel, W. H. Lincoln, Stanstead Surprise, and Cesare Costa were the most noteworthy among the Japanese. Jeannet d'Arc, Lord Wolseley, Nil Desperandum, and Mrs. Naish were conspicuous in the incurved section. Mr. B. Sims, 39, Shaftesbury Road, Gosport, was second with smaller but neat blooms.

Mr. Hawkins was also successful in the classes for eighteen Japanese, distinct, and eighteen incurved, staging excellent blooms of the leading varieties. Mr. Sims was second in the Japanese class, having smaller yet neat examples. For twelve reflexed, in not less than six varieties, Mr. J. Hillier, gardener to S. T. Blake, Esq., Gosport, was an easy first. King of Crimsons, Phidias, and Distinction were the best. Mr. T. W. Hatch, Seafeld, won easily in the class for twelve Japanese with good examples of Mrs. F. Jameson, E. Molyneux, W. H. Lincoln, Sunflower, and Cesare Costa. Mr. J. Hillier was second.

Pompons, three blooms to a bunch, were best staged by Mr. H. Lee, 3, Toronto Place, Gosport, and comprised highly coloured blooms of Mdle. Elise Jordan, Madame Martha, and Golden Circle. Mr. H. Dance, gardener to Mrs. Rowe, was second. The premier incurved bloom was Nil Desperandum, Mrs. F. Jameson occupying a similar honour in the Japanese section, both belonging to Mr. H. Lee. The N.C.S. certificate was awarded to Mr. G. Hawkins for excellence of culture. The best group of Chrysanthemums was staged by Mr. T. H. Watch, the plants being dwarf, with good foliage, and carrying fine flowers. Plants in other classes were creditably staged, as also were table plants and Primulas.

Vegetables were numerous and well staged, Mr. G. Hawkins winning somewhat easily for nine varieties, all of excellent quality. Hardy fruit was extremely well shown, Messrs. Hawkins and W. & J. F. Legge being the principal prizewinners. Mr. H. J. Spence, as usual, had all the arrangements in a satisfactory condition.

HAVANT.—OCTOBER 28TH.

THE ninth annual Show was held as usual in the Town Hall, and considering the early date and the late season was a success. The competition was not quite so strong as last year, but the quality of the exhibits was above the average. The arrangements, under the superintendence of Mr. Chignell, the Hon. Secretary, assisted by a hard-working Committee, were good.

Cut blooms were the most important feature of the Show. The principal class was that for forty-eight, half incurved varieties and the remainder Japanese. Mr. Penford, gardener to Sir F. Fitzwygram, Bart., M.P., Leigh Park, Havant, won the premier award with a bright stand of blooms, especially the Japanese. Sunflower, Bouquet de Dame, Vivian Morel, Avalanche, and Stanstead Surprise were the most noteworthy. A splendid bloom of Refulgens was staged in the incurved stand. Mr. J. Agate, gardener to W. Pawson, Esq., Havant, was second with good Japanese, Stanstead White being extra fine.

For eighteen, nine incurved, and the same number of Japanese, Mr. Steptoe, gardener to — Gale, Esq., Horndean, won rather easily with fairly good blooms. Mr. Parrot, gardener to Mrs. Kincaid Smith, gained first prize for twelve Japanese with full blooms of good quality. Mr. Agate was second; Mr. Penford securing a similar award for the same number of incurved blooms. Mr. Agate, as usual, staged the best single and Pompon blooms in bunches of three of one variety. Groups of Chrysanthemums and miscellaneous plant groups were meritorious, making an effective display.

BRIXTON.—NOVEMBER 1ST AND 2ND.

THE Show of the Brixton, Streatham, and Clapham Society was held in the Town Hall at Streatham this year and proved to be quite up to the average in quantity and quality, though the cut blooms, incurved especially, were rough. Many of them would have been all the better for a few more days' development, and the same remark applies to the Japanese, many of which were not quite developed.

The first prize for twenty-four incurved went to Mr. W. Howe, gardener to H. Tate, Esq., J.P., whose blooms had weight but not finish. Lord Wolseley, Violet Tomlin, Prince Alfred, and Prince of Wales were the best, the heavier blooms, such as Lord Alcester, John Lambert, Queen of England, and Empress of India being ill-furnished and coarse. Mr. Poulton, gardener to C. T. Cayley, Esq., was second with half-developed blooms. He was somewhat fortunate to get a prize at all, for the flowers ought to have been on the plants some time longer. Mr. Howe also won with twelve, his blooms being of very much the same character as the twenty-four—namely, weighty but lacking smoothness. Robert Cannell was about the best. Mr. Poulton was second, and Mr. Stevens, gardener to B. F. Smith, Esq., third. Mr. Wiggins and Mr. Stevens were first and second with six. Mr. Howe's Japanese were better than his incurved, albeit one or two would have done very well with a little more time. Mrs. Falconer Jameson, Mrs. E. W. Clarke, Etoile de Lyon, Sunflower, Mrs. Beckett, and Stanstead White were excellent flowers. Mr. Mursell, gardener to Mrs. Burton, was a good second, but still losing nearly a point on every bloom against Mr. Howe. Mr. Ouseley, gardener to R. Lyell, Esq., was third. Mr. Howe won again with twelve, these being hardly equal to the others. Mr. Mursell was a close second, and Mr. T. Stevens third. Mr. Guyett was first with six. The first prize for large Anemone-flowered fell to Mr. Pearce, gardener to Mrs. Fletcher Bennett, for neat flowers of medium quality, and that for Pompons to Mr. Stevens, other prizes going to Mr. Fulbrook, gardener to B. B. Baker, Esq. Mr. Howe was first with reflexed.

There were other classes for cut blooms, and the most successful exhibitors were Messrs. Guyett, who won Mr. Hibbert's special prize; Mr. Mursell, who secured the prize offered by Messrs. Reid & Bornemann; Mr. Howe won the first prize offered by Thomas Gabriel, Esq., with a good stand of twelve Japanese, also that offered by J. Margetson, Esq., for Japanese cut with long stems and foliage; and Mr. A. Rofe, who was first in the maiden class.

The specimens were not nearly ready, and many of them ought to have been left at home. Mr. Cherry, gardener to Mrs. Gabriel, won with six plants well trained and flowered, but the blooms were only partly developed. Mr. J. Martineau, gardener to Dr. Martineau, was second, but two of his plants were only in bud. Mr. Cherry was also first in another class for six, but one plant only bore a few expanded blooms, the rest being in the bud stage. Pompons were not nearly ready. Mr. Weston was first, and Mr. Cherry second.

There was an excellent display of stove and greenhouse plants, Orchids, cut flowers, and fruit; the whole making up an attractive exhibition. The arrangements were in the capable hands of Mr. W. Roupell.

KENT COUNTY.—NOVEMBER 1ST AND 2ND.

TRACES of the lateness of the season were by no means absent from the Kent County Chrysanthemum Society's Show this year, nevertheless the Exhibition was an excellent one. The incurved blooms were somewhat weak, evidently requiring more time; but there was material of the highest quality in the Japanese section, and the number of fine novelties on view lent added interest to the display.

There were three stands of thirty-six blooms, eighteen incurved and eighteen Japanese, and the best of them was that staged by Mr. Whittle, gardener to C. H. Goachen, Esq., Ballards, Addington, Croydon. There was a great difference between the two sections of his exhibit—the incurved being imperfectly developed, while the Japanese were large, well filled, and good. The former were John Lambert, Empress of India, Alfred Salter, Golden Empress, Mons. R. Bahuant, Queen of England, Mrs. Shipman, Nil Desperandum, Jeannet d'Arc, John Doughty, Lord Alcester, Violet Tomlin, Lady Hardinge, Ami Hoste, Princess of Wales, M. A. Haggas, Refulgens, and Madame Darrier. The Japanese were Colonel Smith (splendid), Stanstead White, E. Molyneux, Etoile de Lyon, W. H. Lincoln, Vivian Morel, Avalanche, Jeanne Delaux, Irving Clarke, Stanstead Surprise, Gloire du Rocher, Marie Hoste, Mrs. Falconer Jameson, Edwin Beckett, W. Tricker (in fine colour), Sarah Owen, Puritan, and Sunflower. Col. Smith was undoubtedly the pick of the box; it is a great acquisition. The second prize went to Mr. R. Leadbetter, gardener to A. G. Hubback, Esq., Elmstead Lodge, Chislehurst, whose incurved were perhaps a trifle better than Mr. Whittle's, but lacking in weight, while the Japanese were hardly so well filled. Mrs. E. W. Clarke, Mdle. Marie Hoste, and Coronet were the best of the latter; and Lord Wolseley and Violet Tomlin the pick of the incurved. The third prize went to Mr. Rowbottom, gardener to H. R. Williams, Esq., The Priory, Hornsey, whose incurved, which ran somewhat small, were strengthened by a beautiful bloom of Madame Darrier, a charming light bronze flower tipped with gold, which was selected as the best in the Show. The Japanese were neat, but not heavy. Mr. Whittle was again first with twenty-four Japanese, showing medium sized, fresh, and well-coloured flowers. Colonel Smith and Marie Hoste were extremely beautiful, while Vivian Morel, Mrs. E. W. Clarke, and W. Tricker were conspicuously good. Mr. J. Mackenzie, gardener to F. S. W. Cornwallis, Esq., M.P., Linton Park, Maidstone, was a very good second, albeit one or two of his flowers were rather thin. John Dyer, a mixture of yellow and bronze, was somewhat striking. Mr. Leadbetter was third. Mr. Mackenzie won with twelve—an excellent stand. Colonel Smith showed the most prominently in it; this noble variety has already secured a high position as an exhibition Japanese. Mr. Leadbetter was second with rather flat flowers; and Mr. Wheadon, gardener to R. J. Collier, Esq., third.

The incurved classes were nothing like so strong as the Japanese. Mr. Whittle won with twelve, but they were far below his usual strength, and he will no doubt be better a few days hence. Mons. R. Bahuant, Empress of India, and Nil Desperandum were the best, Violet Tomlin and Queen of England being, though large, unfinished. Mr. Mackenzie was second with Refulgens as his best example, and Mr. Lyne, gardener to H. F. Tiarks, Esq., Foxbury, Chislehurst, third. Mr. Leadbetter was the only exhibitor of reflexed, and was placed first for a good stand. Mr. Tickner, gardener to J. Watney, Esq., Shermanbury House, Reigate, was first with Pompons. Mr. Leadbetter had the best large Anemone flowered, Delaware being by far the finest bloom. Mr. Tomalin, gardener to S. White, Esq., was second, and Mr. Tickner third. Mr. J. Pearce, gardener to J. Wainwright, Esq., Belmont, Lee, was first with six white Japanese, Elaine representing him. A. J. Scrutton, Esq., Eagle House, Eltham, was second with Florence Percy. The corresponding class for coloured Japanese brought out three splendid stands, Mr. Rowbottom being placed first, second, and third with Sunflower, W. Tricker, and Puritan respectively, all of a first prize grade in the ordinary course of competition. He showed a lovely box of Mdme. Darrier in the class for six incurved, small, but exquisitely moulded and finished. Mr. Whittle was second with Queen of England, and Mr. Scrutton third with Mrs. Rundel.

In the local classes the competition was not very brisk, many exhibitors who were expected not putting in an appearance owing to the lateness of the season. Mr. Rhoden, gardener to J. Vavasseur, Esq., Rothbury, Blackheath Park, was the only exhibitor of twenty-four

blooms, and was awarded the second prize. He had a similarly easy task with twelve Japanese, but had better blooms, and was placed first. For six incurved he was second. Mr. Couldrey, gardener to J. Terry, Esq., The Shrubbery, Grove Park, had a very neat stand of six Japanese, and deservedly received the premier award. Mr. R. W. Allen, 98, Palace Road, Bromley, had an excellent stand of twelve Japanese, albeit the flowers were a little flat. Mr. W. G. Clark, 10, Fishpond Road, Hitchin, was second. Mr. Allen won again with six; Mr. Clark being second, and Mr. C. S. Chantler, 39, Endwell Road, Brockley, third. For six of one variety the latter was placed first. He had a neat box of W. Holmes. In another class for Japanese, Mr. Bertenshaw, 22, Hansler Road, East Dulwich, was first. The prizes for mixed blooms went to Messrs. F. T. Shepley, J. Downs, and C. E. Gardner; other prizes in the smaller classes going to Messrs. Bertenshaw, Niesigh, Chantler, and Copey.

The class for eight Japanese, eight incurved and eight reflexed, brought a good stand from Mr. Leadbetter, which was deservedly awarded the first prize. Mr. Hewitt, gardener to H. B. Mackeson, Esq., was first with six blooms of Avalanche, Mr. Whittle second, and Mr. Leadbetter third, all having charming stands. Mr. Whittle had a beautiful box of Vivian Morel, and was placed first, his best example, a truly magnificent bloom, being selected as the best Japanese in the Show. It was one of the finest ever exhibited. Mr. Rowbottom was second; and Mr. Moore, gardener to Carl Jay, Esq., third.

Messrs. Perkins, Coventry, were first for a hand bouquet of Chrysanthemums; Mr. W. Garton second, and Mr. J. R. Chard third. Mr. T. Dobson, gardener to F. P. Preston, Esq., had the best group of Chrysanthemums, and Mr. Lyne the best mixed group, other prizewinners being Messrs. Rhoden, W. Jeffery, H. J. Williams, and A. Tomalin. Mr. H. J. Jones, Ryecroft Nursery, Lewisham, had a charming group not for competition, comprising many promising novelties; W. H. Atkinson, a Japanese, is likely to turn out well. Messrs. E. D. Shuttleworth & Co. had a fine group of Palms and Cycads, for which a silver medal was granted. Fruit was a very good display, but space cannot be found for the awards.

WATFORD.—NOVEMBER 1ST AND 2ND.

A BEAUTIFUL Show was held at the Watford Agricultural Hall on the above dates. Groups of Chrysanthemums and miscellaneous plants were plentiful and admirably arranged, some thirteen of these being in competition.

Mr. Ashdown, gardener to C. R. Humbert, Esq., Dell Field, Watford, was a good first with a grand group, the flowers large, and plants well arranged. Mr. Higgins, gardener to Lieut.-Col. A. G. Lucas, Ashlyns, Berkhamsted, was second. In the members' class, for a group, Mr. Wild, gardener to W. B. Hawkins, Esq., Houndswood, St. Albans, was first; and R. T. Prouse, Esq., Howton, Bushey Heath, second. The plants were well arranged, but far behind the open class in quality.

In the cut bloom classes Mr. Beckett, gardener to H. H. Gibbs, Esq., Aldenham House, Elstree, maintained the leading position he has held for some years past. For twenty-four incurved, distinct, he was a good first, showing—back row: John Lambert, M. Bahuant (the premier incurved in the Show), Queen of England, Golden Empress, Empress of India, John Doughty, Lord Alcester, Alfred Salter. Second row: Violet Tomlin, Mrs. Heale, Madame Darrier, Princess of Wales, Lord Wolseley, Jardins des Plantes, Prince Alfred, Jeanne d'Arc. Front row: Nil Desperandum, Mr. Bunn, Refulgens, Beauty, Mrs. Shipman, Princess Beatrice, Barbara, and Camille Flammarion. Mr. Neve, gardener to C. Van Ralte, Esq., Aldenham Abbey, Watford, was second with good flowers.

For twelve incurved, Mr. Dinsmore, gardener to T. F. Blackwell, Esq., Harrow Weald, was first, and for six incurved, one variety, Mr. Neve secured leading honours.

Mr. Beckett was first with twenty-four incurved in the members' class, comprised principally of the varieties already enumerated. Second, Mr. Neve.

The Japanese classes were better filled, and the flowers generally of good quality. In the class for twenty-four, open, Mr. Beckett staged some excellent blooms, comprising—back row: Mrs. E. W. Clarke, Avalanche, Alberic Lunden, Etoile de Lyon, Gloire de Rocher, Madame M. Hoste, Mrs. F. Jameson, Vivian Morel (fine). Second row: Sunflower, E. Molyneux, Puritan, M. Marrouch, E. Beckett, W. Tricker, Stanstead White, W. H. Lincoln. Front row: Jeanne Delaux, Miss A. Hartzhorn, Excelsior, Marquis de Paris, Masterpiece, Mrs. E. Beckett, Roi de Japonais, Mrs. M. Thrower. For twelve Japanese, Mr. Dinsmore was first; Mr. Watchorn, second; and Mr. Neve, third. For six white Japs, Mr. Beckett was first, having large Stanstead White; Mr. Fortnum, gardener to J. Larkin, Esq., Delrow House, Watford, was second.

The competitors were more numerous in the members' classes, especially the Japanese. Mr. Beckett was very strong, and in his stand was found the best Japanese bloom in the Show, a very deep flower of Mrs. Falconer Jameson. Mr. Dinsmore was first for twelve Japanese; second, Mr. Wild; third, Mr. Fortnum.

Mr. Myers, gardener to the Earl of Clarendon, contributed a fine central group, composed of Palms, Chrysanthemums, and other flowering plants, which is a leading feature; Messrs. Lanc & Son, Berkhamsted, a large collection of Apples, Nuts, and Grapes. Messrs. Laing and Sons also sent a collection of Apples, and Messrs. Cutbush & Son a group of flowering plants.

Vegetables were very good. For Messrs. Sutton's prizes Mr. Brown was first, closely followed by Mr. Beckett.

BRIGHTON.—NOVEMBER 1ST AND 2ND.

THE tenth annual Exhibition was held, as usual, in the Pavilion, and was a remarkable success.

The most important class was that for forty-eight cut blooms, half incurved and the remainder Japanese, not less than eighteen varieties in each section; £10 was offered as first prize, £7 for second, and £5 for third. Messrs. W. & G. Drover, The Nurseries, Fareham, won easily with large, solid, highly coloured Japanese blooms, and neatly finished incurved of medium size. The varieties were:—Japanese: Vivian Morel (2), Puritan (2), Sunflower (2), Mrs. C. Wheeler, Mrs. F. Jameson (2), E. W. Clark, Florence Davis (2), Edwin Molyneux (2), Miss A. Hartzhorn, M. Bernard, Etoile de Lyon, Comte de Germiny, Mrs. A. Hardy, Beauty of Kingessing, Cleopatra, Gloire de Rocher, Avalanche, W. H. Lincoln; incurved: Golden Queen of England (2), Prince Alfred (2), Lord Wolseley (2), Lord Alcester, Queen of England, Violet Tomlin, Madame Darrien (2), Alfred Lyne (2), Novelty (2), Prince of Wales, Princess Beatrice, Mrs. Heale, Nil Desperandum, Alfred Salter, Jeanne d'Arc, Madam F. Mistral, Lady Hardinge, Mrs. W. Shipman. Mr. Penford, gardener to Sir F. Fitzwygram, Bart., M.P., Leigh Park, Havant, was a creditable second, and Mr. C. Ritchings, gardener to Dr. Frankland, The Yew, Reigate Hill, third.

For twenty-four blooms, twelve incurved and the same number Japanese, all to be distinct, four competed, the best coming from Mr. Penford, an even bright coloured stand of blooms. The varieties were incurved: Violet Tomlin, Jeanne d'Arc, Empress of India, Queen of England, Princess of Wales, Alfred Lyne, Miss M. A. Haggas, Novelty, Mr. Brunlees, Mrs. Heales, Nil Desperandum, Mrs. Coleman; Japanese: Boule d'Or, Etoile de Lyon, Condor, Bouquet de Dame, Wm. Holmes. Sunflower, Vivian Morel, Ralph Brocklebank, Wm. Tricker, Gloire de Rocher, Avalanche, and E. Molyneux. Mr. W. Wallis, gardener to J. Mews, Esq., Hartwell, Heartfield, was a close second; and Mr. R. Phillips, gardener to Dr. Baker, Brighton, third.

The class for twenty-four Japanese, distinct, brought five competitors, making a good display. Mr. T. Glen, Worth Park, Crawley, was an easy first, with the following in capital condition:—Mrs. C. Wheeler, E. Molyneux, Florence Davis, Vivian Morel, Mrs. F. Jameson, Gloire de Rocher, Stanstead Surprise, Coronet, Puritan, Miss A. Hartzhorn, W. Tricker, F. Marrouch. Mr. Wallis was second, with good examples; and Mr. G. Duncan, gardener to C. J. Lucas, Esq., Warnham Court, Horsham, third. There was but one entry in the class for twelve incurved, but this produced the finest stand of blooms in the Show, notably from Mr. C. Goldsmith, gardener to Sir E. G. Loder, Leonardslea, Horsham. The varieties were Alfred Salter, Empress of India, Lord Wolseley, Golden Queen of England, M. Bahuant, Alfred Lyne, Queen of England, Prince Alfred, Jeanne d'Arc, Refulgens, Robert Cannell, and Mrs. W. Shipman. Twelve Japanese, distinct, brought seven competitors, the best coming from Mr. J. P. Heasman, gardener to Mrs. Oxley, Fern Place, Turner's Hill. Mr. A. Emery, gardener to M. G. Megam, Esq., Avoca, Eastbourne, was second; Mr. J. Coles, gardener to Mrs. Nichols, Highby Manor, Balcombe, third.

For six incurved, one variety, Mr. Jupp won with Jeanne d'Arc; Mr. Wallis second with Mrs. Heales. For the same number of Japanese, one variety, Mr. Glen won with W. Tricker, of huge size and rich in colour, Mr. Jupp following with Sunflower, while Vivian Morel secured for Mr. Wallis the third place.

Groups of Chrysanthemums were a feature of the Show. The principal class was that for one arranged in semi-circular form of 14 feet by 8 feet. Mr. G. House, gardener to F. Mowatt, Withdeane Hall, Patcham, won easily with capitally grown freely flowered bush-like plants, the colours being harmoniously arranged in a sloping bank-like form without being in any way formal. Mr. J. Miles, Bristol Nurseries, Kemp Town, Brighton, was second. Mr. J. Hill, gardener to Marriage Wallis, Esq., Springfield, Withdean, third. The class limited to 10 feet by 6 feet produced six entries, the best coming from Mr. Thorpe, 20, West Hill Road, Brighton, a creditable lot; second, Mr. A. Fry, gardener to C. N. Catt, Esq., 52, Middle Street, Brighton.

First-class certificates were awarded to Messrs. Pitcher & Manda for Japanese Chrysanthemums Colonel W. B. Smith and The Tribune, the former a huge flower, golden bronze with terra-cotta suffusion; the latter pale primrose yellow, broad florets. To Mr. Godfrey for Japanese Beauty of Exmouth, and to Mr. Owen, Maidenhead, for incurved Baron Hirsch. There was an admirable display of Grapes and vegetables.



HARDY FRUIT GARDEN.

Planting Fruit Trees.—Few operations are more important than this. Fortunately, however, it need not be hurried over, for although it is desirable to plant early, it is not wise to do so when the soil and the weather are unfit. Nothing is gained by hurrying trees into wet and sticky soil and surrounding their delicate fibres with cold clammy material.

Selecting Trees.—Planters should, if possible, select their own trees at the nursery, giving preference to healthy, clean, sturdy specimens

free from grossness, but which appear to be of medium strength according to their age and form of growth, being in all cases abundantly furnished with fibrous roots. These trees, if carefully removed, are sure to do well. It is particularly necessary that large trees should be provided with abundant roots, in order that fresh root action may quickly take place when removed to new positions. Though trees of any age may be selected, and if removed and replanted with care will succeed, yet to the majority of planters the younger the trees are the better, maidens being usually the best.

Removing Trees.—It is customary with some fruit growers to obtain trees when young and plant them in nursery quarters, from whence they can be easily and promptly transplanted to permanent positions when required. There is little or no difficulty then in affording proper attention to securing all the fibrous roots possible, and seeing that they are not unduly dried by exposure to sun, air, and drying winds. Such trees can be earlier planted than stock obtained from a nursery, as in the latter case the fall of the leaf must be effected before removal can be general. Nurserymen are mostly alive to the importance of protecting the roots, safely securing the branches from injury, and speedy delivery. It therefore rests with the receiver to follow up this careful treatment on the arrival of the trees by quickly laying them in, in moist ground until the immediate moment for planting arrives. Should, however, the roots become unusually dried in transit, they must be moistened before either being temporarily laid in or finally planted.

Planting.—It is best that the ground should have been previously prepared, and become somewhat consolidated; also that any manure required to enrich it incorporated at the same time. November, as a rule, is the best time for planting; but it may, when trees are at hand, be done a short time previously, as well as be deferred to the most favourable opportunities later. Weather exercises a great influence on the work, and may be such as to prevent it entirely on some soils until spring.

Advantages of Early Planting.—The chief advantage of planting early is that the soil contains more warmth, therefore a certain amount of fresh root action can be secured before the resting period. The activity of the sap also in the trees is greater, especially if a few green leaves remain upon them. This root action, little though it may be, together with the rapid healing up or callusing of the ends of shortened roots, has the effect in spring of inducing an early and strong growth, which is generally maintained throughout the season.

Preparing the Trees.—No tree must be planted with injured roots. All such should be carefully cut back to firm portions, using a sharp knife, so that a clean cut is made. Roots with a vertical tendency shorten back closely. Where a number of trees are being planted it would be advisable to make a note of the condition of the roots of each for guidance in the spring, when top growth will require cutting back in proportion for promoting an equal balance between it and the roots.

Method of Planting.—The first essential is to have the holes wide enough but not too deep. The soil in the centre should be slightly higher than the remaining portions, really forming a convex mound. On this firmly place the tree, having in readiness a specially prepared compost consisting chiefly of good loam, but a little pulverised lime rubbish may be mixed with it, also a fair proportion of wood ashes. This material is used to surround the roots, and to aid them in making an active start. As far as possible divide the mass of roots, whether few or many, into layers, between each of which work the compost with a little of the finest of the staple soil. Spread out every root and fibre to its fullest extent, and as horizontal as possible, contriving to finish so that the upper layer of roots will not be more than 3 inches below the surface. Care must also be taken that the bole of the tree is not buried deeper than previously.

Securing the Trees.—At no period of growth do trees require to be held more firmly in position than immediately after planting standards especially. A strong, firmly fixed stake down each side of the stem, fastening the tree to each, will hold it safely in position. Some soft material must be wound round the stem to prevent the ligatures, which may be of strong flexible cord or copper wire, injuring the bark.

Watering and Mulching.—Should the weather prove very dry at the time of planting it may be necessary to water the trees when planted in light soil. This may be left to the judgment of the planter, but whether needed or not it is essential that a layer of fresh, short, l'ttery manure be spread over the soil in a circle round the stem as far as the roots extend. The ground between the trees not occupied with roots may, as operations cease upon it, be manured and neatly dug over.

FRUIT FORCING.

Pines.—As growth advances more or less in these plants during the winter months, and does no harm provided it is effected by natural means, only sufficient artificial heat being employed to sustain the plants in health and maintain the progress made, they should be placed as near to the glass as possible. This will enable them to make the most of every ray of light and sunshine whenever it prevails. Though the plants may not perceptibly grow they store essential matter in spells of bright weather, and become stouter where due attention is given to keep the glass clean, and admitting air when necessary. The sturdy plant throws up a well-formed large fruit in due season, but the drawn weakly plant, though larger in leaf, furnishes a much smaller fruit on a lanky stem at an uncertain and irregular time. Therefore to give plants the benefit of clean glass and proximity to it without touching is to grow with a view to fruit, and to keep them at a considerable distance from the glass and crowded, or beneath glass more or less

opaque through dirt, with its concomitant moister atmosphere, is to produce foliage instead of fruit. The beds of fermenting materials subside considerably through decomposition, and fresh made up ones settle rapidly unless well trodden down. In either case prompt attention should be given to raising the plants so that they have the full benefit of the light, and in so doing take care not to chill or allow them to become overheated at the roots. New beds should be made where necessary. The best plan is to remove all the plants to a structure with the suitable temperature, clear out the old fermenting material, supply fresh, and not return the plants until the beds are in a proper condition. To take Pine plants from a warm house and keep them in a cold place chills them, and returning them to warm beds from cooler quarters acts in the opposite direction, sometimes causing them to "bolt"—that is, throw up fruit prematurely. Oak, Beech, and Spanish Chestnut leaves are much the best, as they are more durable than others, and the heat is consequently milder and lasts longer. Tan, of course, is best where it can be easily secured, and about half the quantity suffices, but leaves in many cases are procurable for nothing beyond the labour.

Assorting the Plants.—It is a good practice to assort the plants according to their respective requirements before winter. If not done earlier, it should be attended to without further delay. Fruiting plants require the best places to swell off the fruits properly, particularly in this season when natural aid is at a minimum. These plants must have a night temperature of 65°, and 70° to 75° by artificial means during the daytime. Successional plants only require a night temperature of 60°, and 65° by day, with an advance from sun heat, but not without air, to 70° to 75°. Young plants must not be brought forward too quickly, because they are not prepared, nor is the winter season an advisable time to cause them to make much growth, and they will progress quite fast enough and satisfactorily in a temperature of 55° to 60° at night, and 60° to 65° in the daytime, above which ventilate freely, taking care to avoid chills. Fruiting plants require moisture at all times, therefore sprinkle available surfaces regularly when they become dry, and in a light house the plants will need sprinkling during bright weather only twice or thrice a week. Successional plants and others will require syringing occasionally and damping available surfaces where the heat is derived solely from hot-water pipes, but where fermenting beds are employed almost enough atmospheric moisture will be secured from that source without having recourse to the syringe.

Cucumbers.—To keep the plants in a healthy fruitful condition the night temperature should be maintained at 65°, 5° more in mild weather and 5° less in the morning when sharp frosty nights occur, 70° to 75° in the daytime by artificial means, advancing to 80° and 85° from sun heat. Whenever the weather is favourable a little air may be admitted at the top of the house, being careful not to lower the temperature or admit a current of cold air, as that dries and cripples the foliage, it being better when the weather is cold to shut off the top heat for an hour or two when the sun is powerful than to admit air when the winds are sharp. The paths and walls will need damping in the morning and afternoon of fine days, but the syringe must not be used to the foliage unless the days are exceptionally bright, and then soon after midday. The water or liquid manure given to the roots must be of the same temperature as the house, as also must the soil given to the beds.

Autumn-fruiting plants are now in full bearing, and having plenty of stamina in them and not being overcropped, will continue to bear good fruit a considerable time longer. It is also necessary to remove the fruit as soon as it becomes a useable size, and all deformed fruit when seen, as these needlessly weaken the plants. Attend to the plants once or twice a week for the removal of bad leaves, stopping irregular and cutting out superfluous growths. If mildew appears dust the affected parts with flowers of sulphur, or form into a paste with skim milk and brush a little on the hot-water pipes; it acts well against red spider and "white fly," but aphides must be subdued by fumigations with the best tobacco paper or the advertised substances, which are generally safer and thoroughly effectual.

Winter-fruiting plants are by far the most difficult to manage. The great thing is to get them well established and furnished with sturdy growths and thick leathery leaves, letting the shoots advance well up the trellis before stopping them, training the side growths evenly, and not more closely than to allow of the foliage being well exposed to light. Stop the side growths after a few good leaves are made, and the growths issuing from the wood left will show plenty of fruit, and such may be stopped one or two joints beyond it. This will secure foliage for accelerating root action and the proper nourishment of the fruit. To insure the fruit swelling it is sometimes necessary to have recourse to fertilising the female flowers, but allow few or no male blossoms or tendrils, removing them as fast as they appear, for they only weaken the plants. Add fresh warmed soil to the ridges or hillocks as the roots protrude, and be careful not to overwater, affording a supply only when needed.

THE FLOWER GARDEN.

Tuberous Begonias.—These were, as usual in most places, left in the beds and borders till frosts cut down the tops, and it is to be hoped the tubers were not injured also. It is a great mistake to wholly clear the latter of soil either now or later on. Enough to fairly hide the tubers should be left on each, this keeping some of the fleshy roots alive, a stronger and sure growth of shoots resulting next spring accordingly. Expose the Begonias as much as possible to all the sunshine and air going; stages and dry beds in borders in freely ventilated vineries being good places for them till the tops are sufficiently dried and decayed to admit of their being cleanly separated from the tubers. Pack them closely together in shallow boxes. If the tubers have been

cleared of earth these should be surrounded by some fresh fine dry soil, but those not so cleared need none of the latter. Tuberous Begonias keep admirably in a dry, warm cellar, and failing this convenience store them in a shed or cool room, taking care to provide a sufficiently heavy covering of mats to exclude frosts. The tubers are far from being hardy, and on the other hand a very warm, dry position may cause their loss by dry rot. Those in pots may be turned out, partly cleared of soil, and wintered as advised in the case of those dug up from the beds; or they may be stored on their sides under a staging in greenhouse where moisture does not reach them. Late-raised plants left thickly in pans or boxes should be kept cool and dry, and the tops when decayed be cleared off them; but the tiny tubers should remain where they are till next spring. They can be grown into strong plants before bedding-out time comes round again.

Dahlias.—In many of the higher positions Dahlias were not injured by frosts before the third week in October, but others suffered very much earlier. All should have been cut down ere this, leaving 9 inches length of stem, the labels being securely attached to this. The tubers should be lightly cleared of soil and laid on their sides in a covered shed for a few days for any moisture there may be to drain out of the stems. Last winter many were killed by frosts, and in order to avoid a repetition of this pack the tubers closely together, distributing fine soil among them, where they can be heavily covered with mats, old carpets, and such like. Under a greenhouse staging is not the proper place, the moisture constantly falling about them either rotting or causing the tubers to start prematurely into growth. Moderately warm sheds and outhouses best suits them, cool dry cellars being a still better storing place.

Other Flower Roots.—Many of the Gladioli, notably those of the more showy Gandavensis type, were very late in flowering this season, frosts cutting them down before their beauty was past. The commoner *G. brenchleyensis* is fairly hardy, and frequently winter well in the open ground, while the *G. Colvillei* should certainly not be disturbed. The rest ought not to be lifted before the tops have lost their greenness, and after the latter have been shortened and the bulbs thoroughly harvested store them in boxes of sand, where frosts cannot reach them. The cormlets often found clustering round the old ones should be taken care of, as these would develop into flowering stuff in the course of one or two more seasons. Store them in sand. The tuberous rooted *Salvia patens* should be treated similarly to Dahlias.

Fuchsias.—These are rightly fast becoming popular in the flower garden, as they relieve the stiffness of ordinary bedding plants. This season they have grown rather more strongly than usual, and many of the plants were flowering very freely when the frosts intervened. Where they were kept in pots and plunged deeply there need not be much difficulty in keeping a portion or all of the stock through the winter. All that is necessary is to keep them in a cool dry house, and to gradually withhold water so as to keep the wood plump. Any lifted and potted will require to be more carefully dried off. Numbers of Fuchsias are annually lost owing to being badly injured by frosts before being housed. While resting unheated sheds and outhouses are too cold for them, but they keep well in vineries and fairly well on their sides under greenhouse stages, only just enough water being given to keep the wood plump. Standard Fuchsias are very effective, and can either be grown from quite young plants or obtained by trimming off the lower branches of some of the roughest of the pyramids next spring.

THE BEE-KEEPER.

APIARIAN NOTES.

THE weather for the past fortnight has been unusually severe for the season. For more than a week the night temperature ranged between 24° and 27°, falling on the evenings of the 25th and 26th to 14° or 18° of frost, with a day temperature of 30°, the highest point it reached. A genial thaw set in on the 27th, and on the 28th the temperature rose from 45° in the morning to 55°, giving a splendid chance for the bees to air themselves. It was the most genial day we have experienced for many weeks.

FLOWERS.

With the exception of Colchicums, all flowers, including a few Wallflowers and Arabis, are completely cut down, so that very little, if any, pollen can be had. Never in all my experience have I witnessed so little pollen gathered during September and October, and never stronger hives, although the majority of them discontinued breeding at the end of July. If strong hives now augur well for the future I am well prepared for 1893.

INTRODUCING A CARNIOLAN QUEEN.

During the severity of the frost an acquaintance asked my assistance to introduce the prettiest golden coloured Carniolan queen I ever saw, that he had just received from Messrs. G. Neighbour & Sons. I had the hive brought to me, and on removing the queen regnant discovered traces of foul brood. I

transferred the bees to clean combs, and as the disease was not widely spread, dispensed with the "purgatorial" process. I managed the transfer and removal of the queen without losing a single bee, and had the satisfaction to see the bees fraternise with the alien stranger and become quite settled. The thermometer stood at 24°. About 8 P.M. I went out to take a last look at them, when, to my horror, the bees were in an uproar, and by the aid of a lantern I discovered more than half of them on the path, apparently dead. I swept them into a shovel, took the hive with the remaining bees within doors, closed the entrance, and dropped the ventilator, a precaution I ought to have done at first. I then placed a rim on the hive, and put the frozen bees upon the top, and covered them; by next morning the whole of them were recuscitated, and joined the cluster, all living. I then liberated the queen, or rather allowed the bees access to her in the cage she was imported in, being well adapted for that purpose after I formed a gateway.

FEEDING.

This had to be resorted to at once as the temperature was low and the bees had no food. I at once fed from the top and the bottom at the same time, the former with a float so constructed that the bees cannot get underneath it, and which falls or rises readily with the sugar, while the latter was a large sized fountain. True to their natural instinct, the bees emptied the fountain several times before they half emptied the upper one, and the longer the feeding continues the less they incline to take syrup overhead. I have experienced the same thing often, and many years ago gave your readers the benefit of it. I have a feeder considerably over a hundred years old, intended, no doubt, for a straw hive for top feeding. It is all wood, and on the same principle as the "Warwick Feeder," which, according to Mr. John M. Hooker, is "The most perfect feeder yet in the market." With some of my combination feeders, or, in other words, feeders for top or bottom, I fed some hives lately at the rate of 14 lbs. of syrup in six hours.—A LANARKSHIRE BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

Dickson & Co., 1, Waterloo Place, Edinburgh.—*Roses, Carnations, Fruit Trees, &c.*

D. S. Thomson & Sons, The Nurseries, Wimbledon.—*Roses, Fruit Trees, Shrubs, &c.*

Hurst & Son, Burbage Nurseries, Hinckley.—*Fruit Trees, Roses, &c.*



TO CORRESPONDENTS

*All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Abnormal Gloxinia (W. G. C.)—The floral appendages at the base of the corolla are not by any means uncommon, and we have had flowers sent to us with the character more fully developed than in the one you send; it was however injured in transit.

Mixing Gypsum with Manure for Mushroom Bed (F. H.).—1, It is not desirable to "mix some gypsum with the manure when being prepared for the bed," for, though it absorbs and "fixes" ammonia, it interferes with the fermentation so essential to the spreading of the spawn; the better that is effected the more abundant and prolonged will be the Mushroom crop. 2, The ammonia captured by the gypsum is of no use whatever to the growth and development of the Mushroom spawn, for none of the processes essential to its liberation are undergone in a Mushroom bed. It is different with the "fixed" ammonia when subjected to the secretive action of the roots of growing crops generally, as the "fixed" ammonia must be liberated by the action of the gypsum on certain insoluble compounds of the soil, and having issue in a better supply of potash.

Coloured Plates of Injurious Insects (*C. T. H.*).—We believe the only standard volume published with coloured figures and descriptions of insect pests is Curtis's "Farm Insects." Of course, it includes some garden ones, necessarily only a part of them. We do not know if it can be obtained now. It was, to the best of our recollection, published by Blackie about 1860, and appeared in parts; we think the volume cost 24s. or 30s. In a catalogue we have is noted a book on "Insects Injurious to Vegetation," with coloured plates, by Harris and Agassiz. It is not stated who is the publisher, nor the price, and we have never seen it. Miss Ormerod's work on "Injurious Insects and Methods of Prevention" has many uncoloured figures, and is useful though deficient on some points, nor does it touch upon the insects of the flower garden. We have not, in fact, any good and popular manual well illustrated which deals with the subject comprehensively.

Apricots Failing Under Glass (*A. B.*).—Apricots when grown under glass require an abundance of air in spring or when flowering, so as to keep the atmosphere buoyant and dry. This, we think, is the cause of the failure in your case—viz., the house was kept too close, too moist, and at too high a temperature at the time of flowering, which brings on the flowers too quickly, they being then puny, and the blossoms do not set properly nor the fruit swell, because not fertilised. The remedy is to give more air, keeping the house cooler and drier. A few degrees of frost will not injure the blossoms provided they are dry, but it is as well to exclude it, and especially from the embryo fruit, which is very tender. This course of treatment will of course interfere with the Peach trees to some extent, but if you want Apricots they must have air, as a close atmosphere is fatal. Perhaps the tree suffers by want of water at the roots during the resting period. The soil should be kept moist at all times, and care must be taken to have it thoroughly so when the buds are swelling and onward throughout the period of growth.

Tomatoes and Peaches in the Same House (*J. A.*).—Tomatoes will not thrive beneath Peach trees, nor the latter prove satisfactory when shaded by the former, yet they succeed fairly well together when given a chance. It would be better to have a lean-to than a three-quarters span-roofed house, raising the back wall as you propose. The Peach trees may be grown against the wall, preferably training them to a trellis, or wires fixed horizontally about 6 inches apart, and just clear of the wall. The Tomatoes should be planted crosswise of the house and trained upright to stakes or an improvised lath trellis, allowing sufficient space between the plants for a person to pass freely for watering and other cultural purposes. There must be 4 feet clear between the stems of the Tomatoes and the back wall. By this method the roof is kept clear, and both the Tomatoes and Peaches receive the light essential to free bearing and the ripening of the crops. There is another point, namely, the temperature; and the ventilation must be such as suits the Peach trees, for they will not accord to the conditions frequently given Tomatoes in the early stages of their growth.

Precipitated Carbonate of Copper (*S. S.*).—We are not aware that precipitated copper carbonate is kept in stock by chemists, and it is best to manufacture it at home. Procure 3 lbs. of copper sulphate, and dissolve it in hot water in a tub. In another vessel dissolve 3½ lbs. of washing soda in hot water. When cool pour the soda solution slowly into the copper solution, then add water until the tub is full. Stir the solution thoroughly and let it stand twenty-four hours, then syphon off the clear liquid and add fresh water. Stir again and allow the solution to stand twenty-four hours, syphon off the clear liquid as before, then remove and dry the sediment, which is carbonate of copper. The half of a petroleum cask answers very well for precipitating the copper, and a syphon is easily formed of half-inch garden hose. There will be 1 to 1½ lb. of copper carbonate. The liquid ammonia, strength 26°, may be procured of any chemist. Where there is little use for an instrument to apply fungicides and insecticides, a syringe specially made for spraying answers very well; but they are much more quickly distributed by a knapsack pump, and, as a rule, in a better manner. As a syringe "Stott's" for spraying is efficient. Snow's Patent Garden Pump combines simplicity with usefulness, and is a necessity for outdoor use or under glass. M. Vermorel's French Knapsack Pump "Eclair" has proved satisfactory wherever used.

Names of Fruits.—*Notice.*—Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Peaches sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. (*T. Watkins*).—1, Ross Nonpareil; 2, Probably local. (*J. R.*).—1, Beurré d'Amanlis; 2, Swan's Egg; 3, Golden Winter Pearmain; 4, Lord Grosvenor; 5, Yorkshire Greening; 6, Round Winter Nonpareil. (*G. Parrant*).—1, Forelle; 5, Reinette de Caux. (*J. Q.*).—1, Court of Wick; 2, Potts' Seedling; 3, Striped Beefing. (*D.*).—1, Beauty of Hants; 2, Sops in Wine; 4, Gravenstein. (*A. J. L.*).—1, Tyler's Kernel; 2, Striped Beefing; 3, Scarlet Pearmain; 4, Court of Wick. (*R. M.*).—The large specimens are both Warner's King. That named Winter Peach is not that variety, but is probably a seedling. (*S. S.*).—The large Apples are Rymer, the small Court of Wick. (*Herbert*).—1 and 2, Passe Colmar; 3, Marie Louise d'Uccle; 4, Pit-

maston Duchess; 5, Beurre Langelier; 6, General Todleben. (*Nemo*).—The Pear is Catillac; 1 and 2, King of the Pippins, the difference, if any, probably due to stock influence; 3, Old Hawthornden. (*R. C. W.*).—1, Alfriston; 2, Reinette de Caux; 1, Pear Comte de Flandres; 2, Belle Julie; 3, Seckle; 4, Nouveau Poiteau. (*Captain Daubeny*).—1, Striped Beefing; 2, not Lady's Finger; 3, Foxwhelp; 4, Golden Reinette. (*F. A. J. E.*).—We do not recognise any of these as British Apples. They are probably French. (*H. E. Monro*).—1, Ashmead's Kernel; 2, Doyenné du Comice; 3, Golden Reinette; 4, King of the Pippins; 5, Striped Beefing; 6, Dumelow's Seedling. (*W. M.*).—Not identified; probably local. (*Hurst & Son*).—1, Besspool; 2, Queen Caroline; 3, worthless; 4, Doyenné Boussoch; 5 and 6, not sufficient for identification. (*J. D.*).—1, Possibly Gros Colman; 2, Mrs. Pince; but you ought to have sent leaves. (*A. G.*).—Grapes can only be named when a fair representative bunch is sent, a leaf, and some particulars as to the manner of growth. The berries sent were smashed to a pulp.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*A. G.*).—1, Psychotria jasminiflora; 5, Bambusa Fortunei. (*H. R.*).—1, Adiantum tenerum; 2, Pteris serrulata cristata; 3, P. cretica, albolineata; 4, Gymnogramma chrysophylla; 5, Adiantum amabile; 6 Pteris umbrosa cristata. (*G. P.*).—Orchid, Vanda insignis.

COVENT GARDEN MARKET.—NOVEMBER 2ND.

NO alteration. Market very dull.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, half sieve	1	0	3	6	Oranges, per 100	4	0	9	0
Cobbs, Kent, per 100 lbs. 0 0	100	0			Peaches, per dozen	0	0	0	0
Grapes, per lb.	0	6	1	6	St. Michael Pines, each ..	3	0	6	0
Lemons, case	15	0	35	0					

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beans, Kidney, per lb. ..	0	6	0	0	Mustard and Cress, punnet	0	2	0	0
Beet, Red, dozen	1	0	0	0	Onions, bunch	0	3	0	5
Carrots, bunch	0	4	0	0	Parsley, dozen bunches ..	2	0	3	0
Cauliflowers, dozen	2	0	3	0	Parsnips, dozen	1	0	0	0
Celery, bundle	1	0	1	3	Potatoes, per cwt.	2	0	5	0
Coleworts, dozen bunches	2	0	4	0	Salsafy, bundle	1	0	1	6
Cucumbers, dozen	1	6	3	6	Scorzenera, bundle	1	6	0	0
Endive, dozen	1	3	1	6	Seakale, per basket	3	0	0	0
Herbs, bunch	0	3	0	0	Shallots, per lb.	0	3	0	0
Leeks, bunch	0	2	0	0	Spinach, bushel	3	0	3	6
Lettuce, dozen	0	9	1	0	Tomatoes, per lb.	0	2	0	6
Mushrooms, punnet	0	9	1	0	Turnips, bunch	0	3	0	4

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	4	0	6	0	Lilium (var.) doz. blooms	1	0	3	0
Asters, English, doz. bunches	4	0	8	0	Maideuhair Fern, doz. bunches	4	0	6	0
Bouvardias, bunch	0	6	0	9	Marguerites, 12 bunches ..	2	0	4	0
Carnations, 12 blooms ..	1	0	3	0	Mignonette, 12 bunches ..	3	0	6	0
Chrysanthemums, dozen blooms	1	6	2	0	Orchids, per dozen blooms	3	0	12	0
Chrysanthemums, dozen bunches	6	0	12	0	Pelargoniums, 12 bunches	3	0	12	0
Eucharis, dozen	3	0	6	0	Primula (double) 12 sprays	0	6	0	9
Fuchsias, per bunch	0	6	1	0	Pyrethrum doz. bunches ..	3	0	6	0
Gardenias, per dozen	2	0	4	0	Roses (indoor), dozen	0	9	2	0
Geraniums, scarlet, 12 bunches	6	0	8	0	" (outdoor), doz. bunch ..	6	0	3	0
Gladioli (various), 12 sprays	1	0	2	0	" Red, per doz. blooms ..	1	0	2	0
Lilium longiflorum 12 blooms	6	0	9	0	" Tea, white, dozen	1	0	2	0

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (golden) dozen	6	0	12	0	Foliage plants, var., each ..	2	0	10	0
Begonia, per dozen	6	0	12	0	Fuchsia, per dozen	3	0	6	0
Chrysanthemum, per doz.	6	0	9	0	Heliotrope, per dozen	6	0	9	0
" large plants, each ..	1	0	3	0	Lilium laicifolium	12	0	15	0
Cnepsna, large plants, each	2	0	5	0	Lycopodiums, per dozen ..	3	0	4	0
Dracæna terminalis, dozen	18	0	42	0	Marguerite Daisy, dozen ..	6	0	12	0
" viridis, dozen	9	0	24	0	Mignonette, per dozen	6	0	12	0
Euonymus, var., dozen ..	6	0	18	0	Myrtles, dozen	6	0	9	0
Evergreens, in var., dozen	6	0	24	0	Palms, in var., each	1	0	15	0
Ferns, in variety, dozen ..	4	0	18	0	" (specimens)	21	0	63	0
" (small) per hundred ..	6	0	8	0	Pelargoniums, scarlet, doz.	6	0	9	0
Ficus elastica, each	1	6	10	6	Solanums, per dozen	9	0	12	0



THE DAIRY.

DERBYSHIRE farmers complain bitterly of heavy losses sustained in the milk trade. Cheddar cheese makers say that owing to a short crop of grass the yield of cheese is so low that

the deficiency will be fully 1 cwt. per cow. But Stilton cheese makers have done exceedingly well, prices rule high, being quite up to the average, as also is the number of cheese. This, at any rate, is the case at the largest farm of a Leicestershire estate; some of the smaller tenants may not have done quite so well, but on the whole they are thriving, and we have no notices for leaving holdings next Ladyday arising out of failure or business difficulties. "Nothing," says a report of the recent Dairy Show at Islington, "can approach the rich flavour of a well-made Stilton. Even Frenchmen admit as much." So that the thriving condition of makers of this cheese must be taken apart from the general question.

Very serious indeed is the state of things, if, as we are assured, town milk dealers mix separated milk with new milk without risk of detection, their profits upon the separated milk so used being at least cent per cent. In the Peak district practically the whole of the land is devoted to grazing, the holdings being below rather than above an average of 50 acres. We recently saw from thirty to forty milk carts at Miller's Dale station, each with three or four churns of milk for the Manchester dealers. The scene was animated with a brisk business-like air about it. There was no loitering, the carts being quickly unloaded, the milk delivered, empty cans collected, and the carts driven off again to the quiet solitary homes of the graziers amongst the neighbouring hills and dales. If such men are suffering from falling prices, as they say they are, who is to help them? To talk to them of butter factories would, upon the surface, seem a mere mockery. Yet their case is not so bad as was that of Munster farmers in Ireland before they set themselves to establish co-operative butter factories. With the advent of such factories came prosperity with a future to it, and not a mere fitful thing of the moment. Good butter is still very scarce, difficult to obtain, always being bought up quickly whenever it can be had, even in small quantities. We know a farm in Leicestershire where as much as 1s. 7d. per pound was obtained for all that could be made early in autumn, the whole of the milk being devoted to it in preference to cheese, simply because it was found to be so profitable. There is nothing particularly favourable to the production of good butter in the land of the farm, for that is poor, and is badly cultivated; the cows too are decidedly inferior animals, but it is just owing to the farmer's wife being so cleanly and skilful. That is the point: given the necessary skill in dairy management, with pure wholesome food for the cows, there is no insuperable difficulty in the production of good butter.

What the dalesmen want is a leader in whom they have sufficient confidence to induce them to unite to establish factories. There is much ignorance about this matter among influential men, who are holding meetings to discuss the situation and the possibility of doing better. "What!" say they, "graziers establish butter factories! Where is the money to come from?" "Shares of £1 per cow; calls of 2s. or 3s. per share, as money is required; prompt payments for milk, according to quality; half-yearly dividends for the shareholders," is the answer which results in Ireland justify.

We question if the serious depression in other things besides agriculture is fully realised. Taking the district we have mentioned there must be much distress from the serious decline of the weaving and lace trade. At Bradwell there appears little to do besides miking and stone-breaking. In Bradwell Dale there are two defunct lead mines; at Tideswell the silk looms are almost all at a standstill; at Draycott a huge lace factory is empty and silent. Any possible restoration of prosperity rests with agriculture. It will come as technical education makes its way. We say this with confidence, for our work in connection with this movement takes us much among the dalesmen. We find them intelligent, earnest, eager for information, very energetic, and we are convinced that when

they once come to realise fully the advantages and possibilities of factories all minor difficulties will be swept away. In what is before all things a dairy country, it is lamentable that the milk trade pure and simple should absorb so much of the produce, to the loss of the producers. By all means continue and extend the milk trade, but let it be with factories for butter and cheese rather than for town consumption.

In conjunction with this we are bound to strive for improvement in dairy cows; for real cultivation of pastures, which is a very different process to the slipshod practice of throwing cow droppings about the pasture as a manure dressing. The absurdity of the thing is so apparent that those who do it must surely realise how futile these efforts are to produce anything like adequate results.

WORK ON THE HOME FARM.

Two meadows on an upland farm are in such an unsatisfactory condition that the landlord has requested us to take them in hand in view of seeing whether they can be improved to his advantage and that of his tenant. This particular instance of poverty is all the more vexatious, because the meadows adjoining them are really good pasture. The first step will be taken at once by making drains 7 yards apart and about 30 inches deep; there are then two ways open to impart fertility to the land, which is evidently very poor. The first is by sheep-folding at once, the second by dressing with chemical manure next February. As we shall have to adopt the latter course a strip of surface will be left undressed to show exactly the degree of improvement. With tenants unable or unwilling to incur the expense of manures, the only course open to the owner of the land to improve it in as expeditious and reasonable a manner as possible, and to render it worth while for the tenant to cling to the holding and to pay a fair interest upon the landlord's outlay.

Without doing the drainage, which we know to be so necessary, it would be mere waste of money to apply manure. We must have thorough water filtration through soil if we would have prompt action of manure. The two things are inseparable. It is for this reason that we call attention to the importance of making new drains and repairing old ones as soon as the pressure of autumn tillage is over. Get the water out of the land, store it with plant food, and you will have full crops. Rest content with nothing short of this; it is very simple, and is so entirely worth while. See that all water furrows in every ploughed field, whether sown with corn or not, have the ends well opened into the nearest ditch so as to carry off water quickly.

Fold draft ewes on grass now, using an hurdle to a sheep, shutting them in at dusk, with some food in troughs, and letting them out by day. Two nights should suffice for each fold, and much good work is quietly done in this manner on uplands and hill farms. We do not advise folding in cold damp valleys, or wet land at this season of the year. Hill farmers should turn sheep to much better account than they do, keeping them in folds whenever it can be managed, always bearing in mind that we have no better means both for efficiency and economy of storing soil with fertility.

METEOROLOGICAL OBSERVATIONS.

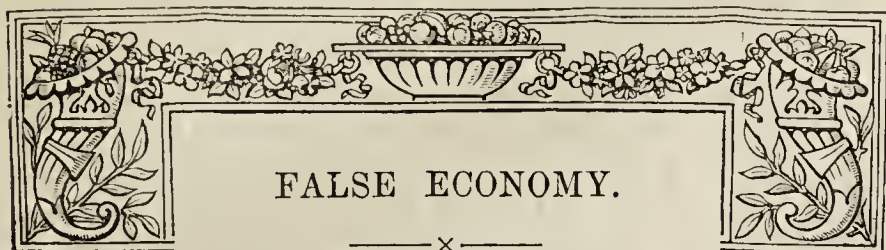
CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.
1892. October.	Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.
Sunday .. 23	29.601	39.3	36.0	W.	44.0	48.4	31.9	83.4	26.4	—
Monday .. 24	29.780	35.3	32.6	N.E.	42.8	49.3	29.6	86.1	25.1	0.010
Tuesday .. 25	29.720	38.7	38.3	S.W.	42.0	43.3	33.9	50.4	27.0	0.023
Wednesday 26	30.101	34.6	32.5	S.W.	42.3	47.5	29.2	64.3	22.3	0.018
Thursday .. 27	29.654	46.4	44.7	S.E.	41.9	59.2	33.6	60.7	29.2	0.421
Friday .. 28	29.357	58.9	55.9	S.W.	44.9	59.7	45.7	63.8	44.7	0.384
Saturday .. 29	29.391	58.0	54.6	S.W.	47.7	60.4	54.3	85.4	48.2	0.020
	29.658	44.5	42.1		43.7	52.5	36.9	70.6	31.8	0.876

REMARKS.

- 23rd.—Almost cloudless throughout.
 24th.—Bright sunshine till 2 P.M., then generally cloudy.
 25th.—Overcast, with occasional drizzle in the morning; showery from noon to 3.30 P.M., then fair again, and bright night.
 26th.—Sunny, with halo in morning; fine afternoon and night.
 27th.—Overcast, with a little rain early; wet from 10 A.M. to 7.30 P.M., and from 9 to 11 P.M.
 28th.—Mild and dull, with frequent slight rain early; incessant rain from 11.30 A.M. to 8 P.M., and showers after.
 29th.—Mild and unsettled, with occasional sunshine early; showers at 11.30 A.M., and noon; almost continuous bright sunshine after 1 P.M.
 A variable week, cool and rain nearly every day.—G. J. SYMONS.



ECONOMY has been the order of the day in many private gardens of late years, and to all appearances it is likely to be for some time to come. Extravagance I have never been an advocate for, and think that it behoves gardeners not only to avoid this, but also to be as economical as they can in all their arrangements where the pockets of their employers are concerned. There is, however, such a thing as false economy. What at first sight may appear a saving frequently turns out to be quite the reverse in the long run, and in no instance is the truth of this assertion more forcibly exemplified than in the matter of planting fruit trees. Because the existing trees appear to be in fairly good health, no great blanks being noticeable either in the case of trees under glass, against open walls, or in gardens and orchards, the owner jumps at the conclusion that no planting of young trees will be necessary for some time to come, and gives orders accordingly. In many gardens after the trees have attained a certain size and age they rapidly decline in vigour and productiveness; at all events, the quality of the fruit produced is very second rate, while in some instances the collapse is even more rapid, large limbs dying off wholesale. If, for the sake of a present saving of a few shillings or pounds, we delay planting young trees till the old ones are nearly or quite worthless, we soon have unsightly blanks staring us in the face, and the mis-use of so much valuable house, wall, and garden space is only too evident in the fruit room when the autumn comes round, to say nothing of various shortcomings earlier in the season.

Another phase of false economy is, as a rule, confined to the owners of small gardens, those who employ experienced gardeners being usually and rightly guided by the opinions of the latter. I refer to the common practice of purchasing cheap trees. I have seen whole rows of fruit trees, named or otherwise, eagerly bought at auction sales simply because they "went cheap." When nurseries are managed by men verging on bankruptcy transplanting is rarely carried out, and not a few of those cheap trees have not been moved for years. They crowd each other with branches and overrun each other at the roots; consequently, when they come to be lifted they move very badly, and are years before they recover their vigour, if ever they do. In numbers of cases the names are lost, or, if they are preserved, the varieties are almost certain to be comparatively worthless, being those for which few or no orders are ever received. Thousands of this class of trees, and also many really well-grown trees of varieties for which the nurserymen cannot find any other means of getting rid of, annually find their way to provincial market towns, and are sold by auction on market days. They find purchasers at what appear to be ridiculously low figures, but I hold such trees to be dear at a gift. Only last winter I saw grand pyramid Apple and Pear trees sold in a market place for less than 1s. each, which, if the varieties had been good, would have been cheap at 3s. each. Please bear in mind that I am not a nursery salesman, or in the least interested in their prosperity, beyond wishing that all who do business in an honest manner may meet with the success they deserve. If anyone can prove there is any economy in buying trees after they have been knocking about with their previously damaged roots exposed for several days in succession to cold frosty winds, then I am no judge in the matter.

In one garden that comes under my notice frequently a large number of cheap standard Apple trees, presumably of superior varieties, proved to be nothing more than cider fruit. All have been regrafted, and are now doing well; but what a waste of time and space took place before they commenced to pay their way. Better by far have bought a number of Crab stocks outright, and grafted these. My advice, therefore, to intending planters is never to be misled either by appearances or the descriptions given of trees and varieties that are vended by perfect strangers. There are trustworthy nurserymen within easy distance of most localities, while those who advertise will not, as a rule, risk their reputation by supplying what they know to be worthless.

True economy, then, consists not only in keeping a garden well stocked with fruit trees, but also in paying a fair price for a good article. It may be asked, What is a good article? I think the answer to this is not far to seek. As I have already pointed out, it is not the largest and most perfectly formed trees that are always the most desirable for planting. What is wanted are medium-sized to small trees of the most approved varieties. Of late years there has been such a great demand for the latter that it is next to impossible to obtain large trees of them, whereas the shy bearers and inferior varieties are on hand far longer than their growers care to see them. Those who want trees should decide beforehand what they intend to plant, or else seek the advice of some competent person, and, if the orders are placed early, buyers are fully justified in insisting that they have what they want. In some instances the selections might safely be left to the nurseryman receiving the order, but according to my experience "substituted" trees are not a success, and of late years I have insisted upon having exactly what I ordered.

It is also a wrong notion to plant many varieties of any one kind of fruit. From a pomologist's point of view unlimited collections are very interesting and instructive, but they are far from being economical. For instance, sixty trees of as many varieties of either Apples or Pears, are not half so profitable and satisfactory in other ways as a dozen varieties well selected, five trees of each, would be, and the same rule holds good with other kinds of fruit. It is the limited collections that best please the owners of private gardens, and are decidedly the most profitable for market growers. It may be somewhat against the grain to have to plant small trees of the most sought after varieties, but it will be found that healthy young plants, if not the first to arrive at a free-bearing state, eventually develop into the best or most profitable trees.—M. H.

AZALEA MOLLIS.

THIS Azalea is recognised in all botanical works as *A. sinensis*, but gardeners generally know it by its more popular title of *A. mollis*. Though the species *A. sinensis* has been introduced in this country since 1823, it is only during recent years that we have heard so much about the hybrids, for the hybridist has been busy here. If he has not secured the brilliant colours that are seen in the Indian types, he has at least produced such delicate tints that are quite unknown to the other classes. In this respect the Azaleas resemble the Tea Roses. The Belgian growers have introduced many of the best varieties, but it is a cogent fact that thousands of seedlings are raised annually in this country. I think that they are more serviceable to a gardener than the varieties of *A. indica*, though they do not equal them in all respects. For instance, we do not possess a really pure white variety yet, though this is only a question of time, for there is plenty of material to work upon. The fact that the plants are perfectly hardy is sufficient to recommend them anywhere; but when we consider how useful they are for conservatory decoration in early spring, their claims are doubly enhanced.

If we first consider the Azaleas as being hardy, we shall soon

arrive at the best methods for utilising them. I think it will be generally admitted that our shrubberies are too scantily supplied with flowering shrubs. If such plants as these were introduced more freely, the effect in spring would be charming. For small gardens a single bush would be sufficient to make an effect, but where long borders of evergreens are planted, a group of at least a dozen plants should be introduced. If a little regard is paid to the colours, such groups cannot be other than striking during the flowering season. In most places a bed could be planted on the lawn without deranging the surroundings. I readily admit these beds are not very pretty during the winter months, but, at any rate, they are as presentable as those containing Roses. I have a bed in my mind's eye at the present time that makes quite an exhibition each year. I would also advise planting single standards, just as we do Roses or Rhododendrons. I know nurseries where large stocks of these are always kept on hand, and very beautiful they look in the spring. Soils that will grow Rhododendrons successfully will suit *A. mollis* equally well. The soil to be avoided, or rather made good, is a cold heavy clay, but such can soon be improved by the means known to every reader of the *Journal*.

I should like also to draw attention to the Azaleas for the greenhouse or conservatory decoration. I am convinced that if their merits were more universally known we should meet them more often. We do hear of failures in their culture, but it is generally through some irrational treatment. It is very unwise to force them hard the first season after they are potted, for the flowers invariably fail to develop properly. Why they refuse to start can be readily explained. The simple fact that they are not established is sufficient to account for any such evils. The first year I prefer to let them expand in a greenhouse. It is sheer waste of time to bundle them together in a cold greenhouse after they have finished flowering as we generally do Lilacs, Rhododendron ponticum, and similar things, for they will never succeed unless they get proper culture. It is essential that they get a good sunny position during the summer to mature the growth properly. The flowers are very suitable for decorative purposes where they can be cut from the plants and taken to the rooms at once. Owing to the delicacy of the petals they do not travel very well, the least bruising spoiling their appearance. Named varieties, in colours ranging from creamy white to a deep dull red with all the intervening shades, can be purchased. Personally, however, I like the seedlings, for they grow more vigorously, and there is really very little to choose between them.—JAS. B. RIDING.

DISCUSSION ON APPLES.

CELLINI.

I SEND you a sample of the above Apple from a young tree planted three years ago on ground that has been reclaimed from the sea. The land, which was formerly part of Brading Harbour, has been reclaimed about eleven years, but still contains a large percentage of salt and phosphates from the sea. I planted three Apple trees as an experiment, and the Cellini being one of my favourites, I thought I would try it. Last year it produced about two dozen fruits, and this year quite half a bushel, of which the enclosed are some of the finest. The colour is extra rich, even for this variety, reminding one of the Tasmanian Apples that were exhibited at the R.H.S. some few years ago. The tree is now about 4 feet high to the bearing wood, and is planted in a light sandy soil. This may interest Mr. Brotherton and "E. M." The variety did very well with me on a rather heavy soil at Kingston, and it seems to be doing equally as well on light land here, only the fruit is so much more highly coloured. I planted about fifty others of different varieties last spring, and it will be interesting to note how they succeed.—C. ORCHARD, *Bembridge, Isle of Wight*.

[The Apples referred to are very fine indeed, and unusually rich and bright in colour.]

NELSON'S CODLIN.

I NOTICED that mention was made of this variety last week. It is one of the best kitchen Apples that obtains little notice. I had a tree of it at Bedford, where on the stiff clay it did wonderfully well, but never became a large specimen. It seems adapted for small gardens. The branches assume, if allowed to make free growth, a somewhat drooping habit. The fruits are of a large, clean, conical form, exactly like those of Lord Suffield, and I have always held that Nelson's Codlin must have been one of the parents of that fine early variety. It is, however, later, and has firmer flesh. The bloom is large, and has deep rich colour. The variety will make a handsome lawn tree. Nelson's Codlin belongs to the

Mank's Codlin and Old Hawthornden section of trees. Early Julyan and Frogmore Prolific also belong to the same class; indeed, there may be a dozen good varieties that can specially be commended for their free productiveness, and yet always make moderate short-jointed growth.—A. D.

COCKLE'S PIPPIN.

WERE this introduced now as a new Apple and fruits presented for criticism at Christmas, we should unhesitatingly give it a first-class certificate. The variety is not a robust grower, but it is a free cropper. It is not a showy Apple, as it never puts on colour, but its flesh is crisp and it has a delicious flavour, not inaptly termed balsamic. I cannot admit that in selecting the best half dozen of dessert varieties for keeping, even including Cox's Orange Pippin, Ribston Pippin, Cornish Gilliflower, Pitmaston Golden Pippin, and Claygate Pearmain, that we ought to omit Cockle's Pippin. The rage for big and showy Apples is likely to elbow out the humbler looking russetty dessert varieties that have the best flavour unless their merits are well kept in view.—A. D.

DUCHESS OF OLDENBURG.

ONCE more this variety fully maintained its reputation for being a consistent and sure bearer. Last year the branches on our half-standard were weighted down to the ground with fruit, and this season the crop was quite as heavy and the fruit considerably larger. Towards the middle of August the fruit began to assume a somewhat transparent appearance (it is sometimes erroneously termed the Russian Transparent), and if not exactly a good dessert Apple, either then or later being somewhat acid, there is no mistake about its good cooking qualities. The fruits are large, well-formed, greenish yellow on the shaded side, and beautifully striped with red where exposed, altogether presenting a decidedly attractive appearance. This season Duchess of Oldenburg, in common with many varieties, kept badly, all being past their best by the end of the first week in September, but in former years it has kept good till near the end of that month. Our soil is a strong clayey loam, and the tree is on the Crab stock. That the merits of this variety have been fully appreciated by many market growers was very evident late last August. Apparently it was the only Apple that could be offered for dessert purposes by most of the fruiterers in the outlying parts of London, and, in fact, but few other varieties were to be seen. Being available for either dessert or culinary purposes, and more generally reliable than any member of the Codlin family, Duchess of Oldenburg should, and most probably will, oust a good many of these.—W. I.

LORD SUFFIELD.

IN this district one of the best and most prolific Apples is Lord Suffield. Although with many varieties the present season is a poor one, trees of the above have been loaded with fruit. Last year, owing to the late and severe frost at Whitsuntide, the blossoms suffered very much, and the result was a failure of the crop, but this season they escaped. One tree in an amateur's garden of my acquaintance produced 50 lbs. of fruit, four trees giving in bulk 160 lbs. The soil is fairly strong loam, resting on a sandy kind of clayey subsoil, which, being on a hill side in an elevated district, is naturally well drained. The trees have not been pruned for years, nor yet has any support been given to the roots. They have long grown as they liked, and luckily so far an equal balance between root and branch has been maintained. The appearance, however, of the trees indicates that the roots are descending into the subsoil, as some of the trees, instead of having a spreading habit, are lengthening out in a strong manner upwards, producing long-jointed wood. So long as the trees can blossom and bear fruit this strong tendency will be sufficiently checked to divert the sap into the formation of fruit buds. It is possible, however, that the roots will eventually gain too strong a hold for the trees to do this.—E. D. S., *Sheffield*.

WALTHAM ABBEY SEEDLING.

WHAT is the difference between Waltham Abbey Seedling, so highly spoken of by "A. D.," and Dr. Harvey, also Wormsley Pippin? The difference, if any, is very slight. It is a splendid Apple.—A. B.

UNCTUOUS APPLES.

CERTAIN Apples, it is well known, are unctuous, and sometimes this unctuousness is very pronounced. In my own garden the Welford Park Nonesuch is by far the most unctuous of all the Apples grown; but Mr. Charles Ross, the raiser of the Apple, to whom I communicated this fact, has informed me that it is not so with him. Can any of your readers furnish information on this subject?—G. M. S., *Tillington*.



CATTLEYA LEUCOGLOSSA.

THIS beautiful hybrid was exhibited by Messrs. J. Veitch and Sons, Royal Exotic Nursery, Chelsea, at the meeting of the Royal Horticultural Society on November 1st, and a first-class certificate was awarded it. As briefly announced in our last issue, it is a cross between *C. Loddigesi* and *C. fausta*, the latter parent being also a hybrid between the former and *Laelia exoniensis*. *C. leucoglossa* was raised by Mr. Seden, Messrs. Veitch's grower. The first seedling from this cross flowered in 1888, but the plant shown at the Drill Hall last week, and from a flower of which our illustration (fig. 56) was prepared, is blooming now for the first time. There is a resemblance of both parents in this interesting hybrid, but the sepals and petals possess a clearer shade than does *C. Loddigesi*. The lip is of a charming rose colour with a white crested edge and a suffusion of yellow in the throat.

PLEIONES.

THESE very desirable little bulbous plants are flowering most profusely here at the present time, and I think that a few remarks respecting their culture would not be out of place. Much has been said respecting the most suitable compost for them; some growers advise using fibry loam, peat, cow manure and silver sand, while others recommend good fibry peat only. I have tried both ways and am decidedly in favour of the latter practice. I grew them during 1890 and 1891 in the former compost, and the result was I had scarcely any flowers at all, whereas this year I have used nothing but good fibry peat and have obtained a good display of blooms. *Pleione Lagaria* is carrying two, and on some bulbs four flowers each. To further prove that fibry peat only is the most suitable compost for them I may say that *Pleione maculata*, which did not produce one flower in the former compost, is this year flowering profusely.

Great care must be exercised not to pot the bulbs too deeply, the better plan being to raise the soil in the centre of the pots or pans, thereby enabling the water to pass more readily away. As the flower scapes are produced from the under side of the bulbs, if potted too deeply they are liable to damp off before they arrive at perfection. *Pleiones* should never be allowed to suffer through want of water at any season, for unlike the majority of Orchidaceous plants they do not require a period of rest, for as soon as the flowers are over the foliage begins to appear, at which stage it is the best and proper time to repot them. It is very essential that plenty of drainage should be afforded them, half filling the pots or pans would not be any too much. I use pans in preference to pots, as a better display can be thus produced. The flowers should never be cut, as by so doing you are very liable to injure the foliage also, as it is produced from the same scape as the flower. I have known cases where the flowers were cut as they began to fade, and the consequence has been that the tips of the leaves are also taken off, thereby rendering the plants unsightly for the remainder of the season.—GEO. PARRANT, *Ashby Lodge Gardens, near Rugby*.

SOPHRONITIS.

WHEN Dr. Lindley founded this genus he evidently had no expectations of such a species as *S. grandiflora*, or no doubt its brilliant colouring would have suggested some other than the "modest" generic name now well known.

S. cernua is a small close-habited plant with small pseudo-bulbs surmounted by a single dark green leaf. The flowers are produced during the winter. They are produced two to six on a short spike; the sepals and petals are bright red, and the lip is yellow. This species was discovered by W. Harrison, Esq., near Rio Janeiro, in 1826, and was sent by him to Mrs. Harrison at Aigburth, where it flowered in December of that year. There is a figure in the "Botanical Register," t. 1129, named *Sophronia cernua*.

S. grandiflora.—This is an extremely useful plant, flowering during the late autumn and winter. It requires a cool house temperature, and should be grown in peat and sphagnum in shallow pans suspended near the glass. It is by far the finest species of this small genus. The flowers last a long time in water, and are well suited for buttonhole bouquets. *S. grandiflora* was introduced by a Mr. Gardner, who discovered it on the Organ Mountains in Brazil and sent it home in 1837. It was found growing on the branches of trees at an elevation where in the winter time white frosts occurred every morning. This proves its hardiness, and it is curious to note that when *Sophronites* were first cultivated they were grown in stove heat. The pseudo-bulbs are egg-shaped, 1 inch long. The leaves are leathery, deep green, 2 or 3 inches in length. The scapes are produced from the bases of the bulbs, and each carries a solitary flower varying from 1½ to 4 inches across. The sepals and petals are broad and full, bright scarlet; the lip is small and narrow, yellowish with scarlet markings. I remember about three years ago seeing a row of well-flowered plants of *S. grandiflora* alternating with pans of *Odont. Rossi majus* suspended in one of the cool Orchid houses at Messrs. Veitch's Chelsea nursery, which were greatly admired. *S. grandiflora* was originally described by Dr. Lindley as *Cattleya coccinea*. There



FIG. 56.- CATTLEYA LEUCOGLOSSA.

are at least two varieties of *S. grandiflora*, one with reddish purple flowers, *S. g. var. purpurea*, and one with rose-coloured flowers, *S. g. var. rosea*; both of these seem to be smaller in all parts than the type.

S. violacea.—This species was discovered by Gardner at the same time as *S. grandiflora*, and is a pretty little plant with egg-shaped pseudo-bulbs, 1 inch long. The leaves are narrow, and about 2 inches long. The flowers are produced either singly or in pairs on short peduncles. Each flower is about 1 inch across, the colour is violet-magenta with a paler centre.—C. K.

A GOOD DRESSING OF LIME.

I HAVE pleasure in replying to the Editorial note under the head of "Potato Disease" (page 354). The question, however, is not so easily answered as would at first appear. The nature of the soil and its condition must be the entire guide in liming. I have used from 15 to 20 tons on an acre of ground, and although I had only a poor idea in those days what a good liming constituted, it proved the salvation of a garden that had been declared by two individuals to be worn out. The garden, however, produced marvellous crops for a period of twelve years, and I dare say is doing so still.

On heavy tenacious soil, and on peat soils that have become sour by the accumulation of vegetable acids, I shall advise the use of $1\frac{1}{2}$ cwt. on each rod, or say ten tons per acre. On loams inclining to be heavy and having been heavily manured 1 cwt. per rod, or 8 tons per acre. On soils inclining to be sandy I should use from $\frac{1}{2}$ to $\frac{3}{4}$ cwt. on each rod, or from 4 to 6 tons per acre. Judgment is needed in this matter, and the quantity advised ought to be varied according to the texture of the soil and its condition generally.

If I used gas lime, which I dislike very much indeed, I should not apply more than a quarter to half a cwt. per rod. This lime needs very careful spreading on the soil some considerable time before the ground is cropped. If I was tied to the use of gas lime I should mix it with the scrapings of roads, and the edging of walks; in fact, form a compost heap of any material I could get, and let it lay for twelve months or so, after which it may be thoroughly mixed and applied to the land in early autumn.—WM. BARDNEY.

FRUIT IN THE LORD MAYOR'S SHOW.

THERE is more truth in the old saying that "familiarity breeds contempt" than there is in most of the threadbare and weather-worn aphorisms with which those who have not wit enough to devise any original wisdom hide the barrenness of the mental land. This paves the way for saying that even so venerable a function as the Lord Mayor's procession on the 9th of November has come to be regarded with ill-concealed disfavour to most Fleet Streeters; and at the *Journal* office in particular, where the course of business in the height of the Chrysanthemum season has often been interfered with by the civic pageant. This year, however, all was changed. The venerable chief smiled even more benignantly than usual; the manager moved about with more than his wonted briskness; a busy staff forgot to grumble about their work being interfered with, which, considering their avidity for it, was very significant; and the printing staff in general betrayed a distinct interest in what was going on, while words failed to describe the condition of the office boys. In a word, 171 was not itself on Lord Mayor's day. What was the explanation? It was the announcement that a car of fruit was going to form a part of the great procession for the first time in history. If it had been possible to divine the innermost thoughts of the staff, it would have been found that each and all was sensible that the *Journal* felt it could justly lay claim to some share in the work that had led to the innovation taking place, and felt a personal interest in the show for the first out of the many times it had passed beneath the office walls.

A happier idea than that of arranging for such a display could not have occurred in connection with the great festival. Public interest in home-grown fruit has grown, and is still growing; the populace could hardly, therefore, fail to be pleased at having a magnificent trophy paraded before it. That pleasure was experienced the volleys of cheers all along the line showed plainly. The fruit looked so tempting that it is hard to estimate the magnitude of the scramble which would have taken place had a breakdown occurred. The crowd, however, found appreciation without an opportunity of experimenting, and expressed their sentiments at seeing a great trophy of British fruits passing through London streets in the true old British style. The Fruiterers' Company made excellent arrangements for carrying out the project in an efficient manner, and placed the work in the capable hands of Mr. George Bunyard. The noble edifice of fruit built up was a complete justification of their choice. At one end of the car was a set of trees in pots, and at the other espalier-trained specimens, all well furnished with handsome fruits. At the side of the central stage were cordon trees. The main portion of the trophy consisted of thirty-six baskets of splendid fruit, the Apples comprising such richly coloured varieties as Worcester Pearmain, Gascoigne's Seedling, and Bismarck, while Stirling Castle, Warner's King, Peasgood's Nonesuch, Pott's Seedling, Blenheim, and King of the Pippins were noticeable, together with Pitmaston Duchess, Beurré de Capiaumont, and other Pears. These were arranged in two sloping banks, and were surmounted by growing Pine Apples and some baskets of splendid Grapes. Apart from these there were four corner standards entwined with Pyracantha berries, Clematis, and Brambles, and strings of berries and foliage depending from them. Two mottos, "God Giveth Increase," and "Britain Can Grow Her Own Fruit," were conspicuous on the side drapery. Corner scrolls gave the names of the four counties growing the most fruit—namely, Herefordshire, Worcester, Devon, and Kent, and a gilded upper piece lent finish to the work. It is pleasant to record that a brother fruiterer in Mr. Joseph Cheal of Crawley, willingly lent valuable assistance with fruit in arranging the trophy.

It was a credit to all concerned—to the Fruiterers' Company, which, headed by Sir James Whitehead, Bart., M.P., has done so much for British fruit growing during the last two or three years; to Mr. Bunyard and his assistants; last and greatest to the country which produced it.

TRAINED FRUIT TREES.

THOUGH the art of training fruit trees is not carried to such elaborate extremes in this country as it is on the continent one has only to enter a few of the leading fruit nurseries to recognise that the main principles are thoroughly familiar to us. The British trainers are not all Jamins, but they know their work well nevertheless, and I venture to think that if the illustrious French horticulturist named were to visit the metropolitan nursery of Messrs. Veitch & Sons at Southfields, Fulham, he would accord ready appreciation of the splendid mass of material in the way of trained trees which is there discoverable. There is something of special interest in this phase of fruit culture. Valuable as are the ordinary trees and bushes for planting in the open, both in gardens and market establishments, there are thousands of places in which wall and espalier trees can be usefully and profitably utilised. In every well appointed garden of any pretensions they have their allotted positions, and in smaller gardens, such as those of amateurs and cottagers, they might be planted with hope of a valuable return. I am told that in Oxfordshire there are several instances of Apricots being grown so successfully on cottage walls that the fruit pays the rent, and there is no doubt whatever that many square miles of wall surface go bare which might be made to produce in the aggregate many tons of delicious and wholesome fruit.

THE LOST ART OF PEACH GROWING.

Notwithstanding many striking examples to the contrary, Peach growing in the open air appears to be a lost art to the majority of cultivators. There are comparatively few gardens in which healthy and fruitful trees are to be found. That success or failure is largely a question of culture may be gathered from the fact that splendid crops are produced in such diverse localities as Chiswick, where a lesson in Peach growing is taught by Mr. Barron; Bishops Waltham, in Hampshire, where Mr. Molyneux grows Peaches as well out of doors as he does Grapes under glass; and Abberley Hall, in Worcestershire, where Mr. A. Young proves his ability as an all-round gardener by bringing magnificent crops to perfection 500 feet above the level of the sea. These are jotted down as instances which occur to mind at the moment, and others could be given on reflection. If there, why not elsewhere? Much certainly depends on a good start, but there are certain general principles of management which must have full attention, and some of them at least may be gathered from a survey of the splendid quarters of trees at Southfields, and a passing discussion upon them with Mr. Morle. Nowhere, probably, could a more remarkable example of good culture be found than they present. There are several acres altogether, the trained specimens being faultless examples of health, vigour, and symmetry. Though the types are entirely diverse, all kinds of trees having been prepared for different purposes, the general character is the same, all being well furnished with firm ripe wood studded with fruit buds, and with ample healthy foliage, which, however, is now ripened and falling.

The magnificent condition of the trees is certain to awaken interest and call forth a closer observation of the course of culture that is pursued. In one piece there are 1000 beautiful specimens admirably fitted for planting either in or out of doors with a view to immediate fruitfulness. Some are small, but with an excellent foundation on which to base future management. Others are 6 feet or more across and full of fruiting wood, suitable, therefore, for at once covering considerable space and giving fine crops. Side by side with them is a quarter of Seakale, the variety being Lily White, and be it remarked in passing that a very fine crop of forcing roots of this excellent variety was being lifted for the autumn and winter sales. From the land they have been occupying Peaches and Nectarines were lifted, and after trenching the ground 2 feet deep the Seakale was planted. Now the ground will again be occupied by Peaches, and in this process of change we get the key to the splendid condition of the trees. Frequent transplantation is one of the great secrets of their fine condition. It is evident in the clustering masses of fibrous roots attached to trees now being lifted for planting under glass, in the firm clean growth, and in the bold buds which stud the young shoots trained in for fruiting. The one is a natural consequence of the other. Long deep-striking prongy roots which draw up copious supplies of crude sap from the subsoil would have their counterpart in long coarse sappy branches, but they are kept severely in check, and the mass of feeding fibres that are produced as a result of shortening the prongs and frequent transplantation foster a stout, short-jointed, and firm basis of growth above the soil such as speedily develops a fruitful character if kept free from insects and exposed to the ripening influences of sun and air.

The rule of transplantation in which Messrs. Veitch & Sons so firmly believe, and of which they are able to show such wonderful results, is universal, and knows no failure. When a quarter becomes thinned by the removal of a number of trees to supply orders the remainder are re-arranged on a fresh piece, for the lifting benefits them, and by the closing up of gaps valuable land is economised. The holes made where

individual trees have been lifted give an idea of the character of the roots. They are not narrow, deep excavations, but broad shallow basins, many 5 feet across and about 2 deep. The trees lift with an almost circular mass of fibres springing from the bole, and these are spread out to the fullest extent when planted again. By shortening in the earlier stages of the tree the coarse roots are practically done away with, and thousands of small feeders substituted for them. The branches are trained-in with great care. No crossing is allowed, and the man who lays in one shoot above another promptly hears about it, for all the work is carefully supervised. Thus it is that the wood is always stout and well ripened. Sun and air have free play upon it, and fruitfulness follows as a mere course of nature. Thousands of trees of the ordinary fan-shape are represented, and besides them there are others of all characters and heights. There are half-standards with 3-foot stems, and standards with 6-foot stems. Many have a spread of 7 feet of branches, with a height of 3 to 4 feet, and triple buds stud the shoots laid in all over the trees. They are the perfection of good management, and if the treatment extended to them could be imitated with others there would be hope of the lost art of Peach growing being found again.

TRANSPLANTED APPLES AND PEARS.

The practice at Southfields teaches a wholesome lesson on the management of Apples and Pears as well as of Peaches and Nectarines. Transplanting is as firmly believed in in their case, and the results are equally marked. In the place of long, soft, sappy shoots, which, if shortened as they would be by many, would produce more of a like character, there are sturdy, well ripened, thoroughly matured growths with plump fruit buds bristling on the greater part of their length. They are young shoots, it should be noted, with single buds, not stubby old growths with spurs. To prune such trees carelessly would mean a gross waste of fruit, for most likely the young shoots would be shortened to the one or two wood buds at the base, and the fruit buds above them cut away. Frequent transplantation and thin disposal of the branches are the secret of their fruitful character. Whether the stock be the Quince or Pear, Paradise or Crab, whether the trees be bushes for the open ground or trained for walls and espaliers, the general character is precisely the same. Light and air play amongst the branches unobstructed, and their influences may be traced in the present character of the trees and in the splendid array of dishes with which the firm secured a gold medal at the last Earl's Court Exhibition. These young bushes produce magnificent fruit without rich feeding.

Cordon Pears are very largely represented, for they are in great demand. Three-year-old trees that have fruited are full of buds for another season. Transplanted Apples on the Paradise, $4\frac{1}{2}$ to 5 feet high, are a mass of fruit buds from bottom to top. Young gridiron and palmette Pears are the same. There is a growing demand for the latter class. Standards are represented with both open and trained heads to suit all positions. Fan and espalier trees of the best varieties are represented in all sizes. A couple were lifted while I looked on to illustrate the character of the roots, and both on the Pear and Quince stocks they were a mass of fibres.

PLUMS AND CHERRIES.

Trained Plums transplanted in spring are full of flower buds. They are splendid trees in every respect. The lower branches have not been pruned hard back so as to form spurs near the base, but reasonable extension has been permitted and the young growths thinly trained so as to encourage the development of a fruiting character. The same remarks apply to trained Cherries, which, on a framework of stakes, are as flat as if established on a wall. Fruit buds cluster at the base of the young shoots, and are scattered along them. The trees have never been cut hard back, but have been allowed to extend and then been tied in so as to furnish the tree with fruiting wood. Root management has accelerated the result. Single cordon Cherries, chiefly of the Duke race, which are best suited for this mode of training, are lined with fruit buds. The Morellos are also admirable examples of skilful management. The trees have been twice transplanted, range from 5 to 9 feet wide, and are full of fruiting wood carefully trained in. Pyramid and standard Plums for open quarters bear the same impress. There is also a fine piece of Apricots transplanted in spring, healthy, and promising well for fruit next season.

The story could be continued, but enough has been said to make the lines of management clear. All the trees are alike, and fastidious indeed would the planter be who was not satisfied with the splendid material now awaiting selection by purchasers. The trees are a special credit to a firm that does all things well, and afford a lesson the universal learning of which would be of distinct benefit to the nation.—W. P. W.

ROYAL HORTICULTURAL SOCIETY.

NOVEMBER 3RD.

SCIENTIFIC COMMITTEE.—Present: Dr. M. T. Masters (in the chair), Mr. Morris, Mr. McLachlan, Dr. Russell, Dr. Müller, Rev. W. Wilks, Prof. F. Oliver, Dr. Scott, Prof. Church, Dr. Bonavia, Rev. G. Henslow, Hon. Sec.

Injuries to Plants by Fog.—Dr. Russell observed that with reference to carrying out any experiments, the subject must be regarded from two

points of view. Firstly, the object would be to make an exhaustive investigation into the action of fogs upon plants. This, to a considerable extent, the Scientific Committee has already done, as shown in Prof. Oliver's published report, and in a second upon which he is now engaged. Secondly, taking a wider aspect of the subject, the points which would have to be considered would be the composition of fogs in general, their origin and extent, their comparative densities, the amount of sulphurous acid, the consequent diminution of light, &c. Such investigations would lead to the more universally important consideration as to the increasing unhealthiness of London in winter. To carry out this extensive programme would necessitate the selecting several stations, involving continuous observations, both during fogs and in clear weather. The whole would require a staff of paid analysts. Dr. Russell then gave some interesting statistics of observations carried out at Manchester by Dr. Bailey, which will in due time be published. One point to which he alluded may be here mentioned—namely, the amount of chlorides contained in "fog collections" washed out of the air. He himself had found a dense precipitate of chlorides even on Dartmoor, whenever sea breezes blew in that direction. *A propos* of this Prof. Church remarked that he had on one occasion detected 7 grs. of salt per gallon at Cirencester, which was about thirty-five miles from the sea. It is evident, then, that the presence of chlorides do not necessarily always indicate the presence of sewage. Prof. F. Oliver observed that, regarding the injuries from a horticultural point of view, the question as to the best means of preventing the action of fogs was most important. He described three methods. The first, with which he was very favourably impressed as to its efficiency, although it would probably prove to be the most difficult and expensive, was as follows:—The primary condition for success is that the plant house must be air-tight. As glass houses, however, are usually and purposely constructed with air spaces beneath the overlapping glasses, these would have to be stopped up. In a house properly constructed, like that erected by Mr. Toope, the external air entered below, and was passed through boxes containing charcoal. A draught is created by the heated air of the house, which escapes at the top by means of exhaust caps, which allow of the passage of air *from* but not *into* the house. No sulphurous acid whatever then succeeded in passing through the carbon into the house, the filtration appearing to be perfect. A second method suggested was by means of sprays of various kinds, and by sprinkling the floors, &c. This method has its disadvantages, and Prof. Oliver did not express a favourable opinion of it. The third plan is simply to spread canvas over the house during the period of the fog to prevent its passing into the cracks and into the house. Of course the stoppage of light might be, in some circumstances, a serious objection, but not greater than that occasioned by the fog itself. The really injurious element of fogs is undoubtedly the sulphurous acid gas, and this has to be especially combated. A discussion followed as to what steps should be taken by the Society in the matter. It was generally felt that, as far as the Scientific Committee were concerned, they could not do more than undertake the first object mentioned by Dr. Russell; and this has, in fact, been done. The second and wider object, however, is more or less directly concerned with the former, though it may have a much wider scope. It was proposed, therefore, to make a statement as to what the Royal Horticultural Society has already done in the matter, and to invite the co-operation and assistance of other societies, such as the Meteorological; finally, to appeal to the County Council to take steps towards carrying out a more extensive investigation than the Society alone could possibly accomplish.

Termes lucifugus.—Mr. McLachlan corrected an error in the description of the white ant of La Rochelle, as to the size of the larvæ, in that they are really smaller than stated, being less than a quarter of an inch in length.

Artichoke Gall.—He also exhibited specimen of this disease on the Oak, alluded to at a previous meeting. It is produced by *Aphilotrix fecundatrix*, of which the agamic generation is known as *Andricus noduli*.

Calanthea Allougea Tubers.—Mr. Morris stated that the tubers exhibited by him at a meeting in June, 1891, and supposed to be of a species of *Kämpferia*, now proved to be derived from the above-named plant, an old Carib food plant. The description and chemical constitution ascertained by Prof. Church will be found in Jour. Roy. Hort. Soc., 1891, pp. lix. and cviii.

Conifers.—Dr. Masters exhibited a branch of *Pinus pinaster* with erect cones instead of their being reversed. He mentioned that he had once noticed a similar occurrence in the Scotch Fir at Zermatt, Switzerland. The former had been described as a new species with the name *Lemoniana*; but it merely represented a retention of the youngest condition of the cone. *P. ponderosa*—He showed cones of this tree, which are peculiar in having the scales deciduous from below upwards, as occurs in *Abies*. *Pinus excelsa*.—He also exhibited a branching cone of this tree.

Pyrus japonica, fruit.—Mr. Read sent Apple-like fruits of this plant remarkable for their large size, being 7 inches in circumference and $2\frac{1}{2}$ in height, and very symmetrical in form. They were grown against a sunny wall in Ealing.

The "Glassiness" Apple.—A specimen of this translucent Apple was sent from Naples by M. D. Piperno, where it is considered one of the best eating Apples in Italy. Prof. Ward examined and described it on a previous occasion. (Jour. Roy. Hort. Soc., vol. xii., 1890, p. clxvi.)



EVENTS OF THE WEEK.—The ensuing week will be a busy one in horticultural circles. On Tuesday, November 15th, the Committees of the Royal Horticultural Society will meet at the Drill Hall, Westminster, and on the evening of the same day the annual dinner of the Gardeners' Royal Benevolent Fund will take place at the Hotel Métropole, Lord Brassey occupying the chair. Many Chrysanthemum Shows will also be held, and a list of the most important of these is given on another page. Several auction sales are announced, for particulars of which see advertisements.

THE WEATHER IN LONDON.—The weather has been somewhat unpleasant in the metropolis during the past week. Sunday opened wet, but it cleared during the day, and a slight frost occurred at night. Monday was foggy, cold, and damp, similar weather continuing the greater portion of the following day. At the time of going to press it is milder, but dull.

WEATHER IN THE NORTH.—November 1st to 8th.—Rapid alternations of frost, fog, and rain; no day fine throughout, but one or two better evenings have marked the week. The frost has not been severe nor frequent; 6° were recorded on the morning of the 7th. Potato-lifting has been pushed on. The crop has suffered in not a few cases from frost more than from the disease.—B. D., *S. Perthshire*.

HEREFORDSHIRE FRUIT SHOW.—As will be seen by the advertisement, substantial prizes for Apples and Pears are provided at this Show, which opens on the 24th inst., and good competition may be expected.

GARDENERS' EXAMINATIONS.—A paper entitled "A Short Talk on Gardening Subjects" was read by Mr. J. Barry of Chiswick at a recent meeting of the Ealing District Gardeners' Mutual Improvement Society. In the course of other remarks Mr. Barry advocated, as a means to prevent the appointment of unqualified men to leading positions, gardeners' examinations conducted by some properly recognised and unbiassed authority, which should further act as a kind of agency on which employers might rely for securing competent men.

PLUM WYEDALE.—Although cooking Plums are now very numerous I do not think the merits of the above variety are generally known. We have a tree of Wyedale trained on a north wall, and which is loaded with fruit of a good size at the present time. I have gathered it as late as the end of November. When ripe the fruit is black, and the flavour is good for a late Plum. It is a free-setting variety and a good grower, making a valuable addition where late Plums are required. Anyone not knowing this variety cannot make a mistake in adding it to their collection. It does well on a north wall.—JOHN CHINNERY.

AGAPANTHUS UMBELLATUS ALBUS.—Having seen the remarks made in the *Journal* (page 353) regarding the usefulness of the blue Agapanthus, may I ask if any reader can enlighten me a little on the above variety? I have two large plants which I have grown for the last seven years, but have not yet succeeded in flowering them. I have tried various ways. They have received the same treatment as the old variety, which flowers profusely. I have exposed the plants to all the sunshine possible, and tried them in an intermediate temperature, but to no purpose. I have been told by some neighbouring gardeners that they have also tried this variety until they were tired of doing so.—RECTORY.

THE WAKEFIELD PAXTON SOCIETY.—There was a good attendance of the members at a recent meeting of the above Society to hear the opening lecture of a series entitled, "Studies in Elementary Botany." Mr. G. W. Fallas, one of the Hon. Secs., who was nominated for part 1, commenced a very interesting address by defining a plant as an aggregation of cells combined together in various ways and differentiated into parts forming the numerous organs and members of a plant. He then described the structure and functions of a single cell as the unit of plant life—i.e., the cell and its contents, its work in growth, assimilation, reproduction, and the external conditions essential for their proper performance of the vital processes.

GARDENING APPOINTMENT.—We understand that Mr. Thos Fleming, late gardener at Cradockstown, Naas, has been appointed gardener to Mrs. Jury, Greenfield, Donnybrook, Co. Dublin.

HER MAJESTY THE QUEEN has been graciously pleased to accept from the author, Mr. Wm. Paul of Waltham Cross, a copy of his newly published volume, "Contributions to Horticultural Literature."

AMERICAN GARDEN IMPLEMENTS.—Will someone who has used the "Planet Jr." American Garden Implements say whether they are to be recommended as really economical and labour-saving?—W. R. RAILLEM.

THE PUBLIC PARK AT WAKEFIELD.—The work of laying out the public park, which has been entrusted to Messrs. Backhouse and Sons of York, has been commenced in earnest, and will proceed without interruption unless very unfavourable weather is encountered. The park is to be opened next spring.

EUPHARIS CANDIDA.—I enclose a photograph of Eucharis candida grown in the greenhouse, as my gardener informs me that it is somewhat unusual for a single plant to have seven spikes and twenty-four blooms.—RICHARD C. LONG. [The photograph represents a plant that is a credit to your gardener.]

DEATH OF MR. GEORGE MANNING.—With regret we record the death of Mr. George Manning, who died on Tuesday, November 1st. Mr. Manning, who was engaged, in connection with his father, Mr. T. Manning, at Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, leaves a widow and one child. His remains were interred on Saturday.

EUPHARIS IN POTS.—Since last Christmas I have had from two plants in 14-inch pots forty-six dozen blooms. I have only just finished cutting the last batch, which comprised ten dozen flowers. There are many more spikes just coming up, and they average seven blooms on each spike, so I hope to have plenty by Christmas.—R.

THE WEATHER IN DUMFRIES.—We have had a week of very unsettled weather. November 1st was fine, but frost was severe at night the thermometer registering 19° on the grass at Dumfries. Rain fell nearly all day on the 2nd and 3rd. The 4th and 5th were dry, but heavy rain fell towards night. The 6th was fine but dull, and to-day (7th) is very foggy.—S. ARNOTT.

A LARGE ONION.—The *Exmouth Chronicle* says:—"A fine specimen of the Lemon Giant Rocca Onion is now on view at Mr. W. J. Godfrey's, Rolle Street. It was grown by Captain Astley Cooper of East Budleigh. It weighs 2½ lbs., is 18½ inches in diameter, and was raised from seed supplied by Mr. Godfrey." Our contemporary probably means 18½ inches in circumference.

WEED KILLERS.—A statement has been made in a contemporary that those weed killers which are composed of arsenic are highly dangerous, the poisonous matter flying about in dry weather. As these preparations have proved extremely useful in saving labour at busy times, it seems very desirable that the question of danger should be absolutely set at rest one way or the other.—W. R. RAILLEM.

WOOLTON GARDENERS' MUTUAL IMPROVEMENT SOCIETY.—The third meeting of the session was held in the Mechanics' Institute on Thursday last, the Rev. R. T. Roberts in the chair. There was a large attendance, the lecturer being E. G. Baillie, Esq., Chester, who discoursed at some length on "Vegetarianism." The lecturer divided his subject into three parts—viz., National, Social, and Moral, all of which were entered into very fully. A hearty vote of thanks was passed to Mr. Baillie for his most interesting lecture, a similar vote to the Chairman terminating the proceedings.—R. P. R.

STOPPING CUCUMBERS AND MELONS.—I can assure Mr Young (page 396) that I had no intention of being "hard on Mr. Swan" simply because he stopped Cucumbers so closely. I did not even condemn that practice. What I pointed out was, that there must have been something radically wrong with his practice before he took to stopping closely, if by so doing he was enabled to "double" the crop produced. When Cucumber culture is well carried out, let the system be what it will, no amount of alteration in stopping tactics will enable the cultivator to make such rapid strides in that direction. Mr. Young's reference to Melons needs but little comment from me, as it quite condemns the practice adopted by Mr. Swan, and cannot by any means be considered close stopping; and, moreover, so practical a grower would be certain to produce something good under any system of stopping.—H. DUNKIN.

— ABELIA RUPESTRIS.—This sweet-scented rock Abelia is now flowering in profusion at the foot of a south wall, where its pink bell-shaped blossoms are much admired. It is but seldom we see a really good plant of this shrub, which is to be regretted.—S.

— BERBERIS THUNBERGI.—A large plant of this beautiful Barberry is now a splendid object in the Old Nurseries, Cheshunt. The warm glow of a rich sunset appears to flood the small leaves, and it stands out from the mass of withering foliage around it like a live ember among dead cinders. In the spring the foliage is of a tender green, and the white flowers are very attractive; then comes the autumn glow, and after the foliage has gone the bright coral berries deck the plant. It has, therefore, three well-marked phases of beauty, and presents powerful claims to attention.—P.

— HORTICULTURAL EXHIBITION AT GHENT.—Lovers of botany are looking forward with much interest to the International Horticultural Exhibition to be held at Ghent next spring. These exhibitions are held every five years, but the coming Show is expected to surpass in magnificence all that have yet been seen. Endless varieties of Orchids, Palms, Camellias, Azaleas, Rhododendrons, Aroids, Conifers, Ferns, and other plants from all parts of Europe are to be exhibited. America is to contribute, and promise is made of some beautiful plants from the Congo. Prizes of medals and rich works of art are offered by the King and Queen of Belgium and by various societies and notabilities, amounting in total value to between 35,000 and 40,000 francs.

— THE RAINFALL IN OCTOBER.—October has in many respects been like the corresponding month of last year. There were the same number of wet days, but the total rainfall has been in this district somewhat lighter during the past month than October of 1891. Notwithstanding the great amount of wet we have had, Dahlias and flowers of a similar nature stood uninjured until the morning of the 24th, when 11° of frost were registered. Rain fell on twenty-one days during the past month. Maximum in any twenty-four hours was 1.05 on the morning of the 31st. Minimum 0.1 on the 25th. Total fall during the whole month 3.90 against 5.04 of 1891.—E. WALLIS, *The Gardens, Hamels Park, Buntingford, Herts.*

— A WINTER TENNIS COURT.—One on a large scale has recently been formed at Downside. Mr. Tate and his family are very fond of the game of tennis, but cannot play on grass in the winter, and do not care to take refuge in a covered place. As the substratum, and a very near one, is chalk, drainage was not required. The excavation made necessitated the removal of great quantities of this material to secure the needful level, the sides on the higher ground being sloped, soiled, and turfed. Then on the surface of chalk there was laid several inches of coal ashes, which was well rammed and rolled, and on the surface a coating of pounded or crushed red brick. This, again, is kept well rolled. The floor is devoid of that hardness which characterises asphalt, is porous, and soon dries, and being a trifle soft is elastic to the feet. The court thus made appears to be a striking success.—A. D.

— TECHNICAL EDUCATION IN HORTICULTURE.—The Council of the Scottish Horticultural Association having been allocated a portion of the residue grant by the Town Council of the City of Edinburgh, has arranged a course of lectures to be delivered during the ensuing winter and spring. The scientific and practical aspects of the subjects chosen will be treated by eminent authorities, and the lectures will be free to all interested in the advancement of horticulture. This being the first time that such a course of lectures has been given in Scotland, and looking to the importance of the subject from a commercial point of view, it is to be trusted it will be well taken advantage of by the general public. Bursaries will be given to successful competitors, who must have attended three-fourths of the lectures, and must be under gardeners or nurserymen, and approved of by the Council. Intending competitors should intimate such, in writing, to the Hon. Secretary, Mr. Robert Laird, 17, South Frederick Street, Edinburgh, at the beginning of the session, and not later than the 1st December. The following lectures are arranged—"The Chemistry of Plants and Soils," by Mr. W. Ivison Macadam, F.R.S.E., &c.; "The Structure and Physiology of Cultivated Plants," by Mr. A. N. Macalpine; "The Hybridisation, Selection, and Improvement of Plants," by Mr. John H. Wilson, D.Sc., F.R.S.E.; "Hardy Fruits," introductory lecture, by Mr. A. F. Barron, Chiswick; "Apples," by Mr. Dunn, Dalkeith; "Apricots and Cherries," by Mr. Temple, Carron House, Falkirk; "Peaches and Nectarines," by Mr. Fairgrieve, Dunkeld; "Plums," by Mr. Dunn, Dalkeith; "Strawberries," by Mr. Temple, Carron House, Falkirk; and "Pears," by Mr. M'Kinnon, Scone Palace, Perth.

— VINE CULTURE IN ROME.—A large section of the gardens of the Vatican is, says a daily contemporary, set apart for the culture of Vines, and the Pope takes a great pleasure in superintending their cultivation. The soil is somewhat poor and barren, but nevertheless the crop results in a fairly good quantity of Grapes, which make an indifferent wine.

— ROYAL METEOROLOGICAL SOCIETY.—At the ordinary meeting of the Society, to be held by kind permission of the Council of the Institution of Civil Engineers, at 25, Great George Street, Westminster, on Wednesday, the 16th instant, at 7 P.M., the following papers will be read:—"Thunderstorm, Cloudburst, and Flood at Langtoft, East Yorkshire, July 3rd, 1892," by John Lovel, F.R.Met.Soc.; "On the Measurement of the Maximum Wind Pressure, and Description of a New Instrument for Indicating and Recording the Maximum," by W. H. Dines, B.A., F.R.Met.Soc. The meeting will be closed at 8.45 P.M., when a special general meeting will be held to consider certain alterations in the bye-laws. A copy of the alterations proposed by the Council is open for inspection at the Society's office at the above-mentioned address.—WILLIAM MARRIOTT, *Assistant Sec.*

— RUDBECKIA NEWMANI.—I never remember seeing this perennial so full of flower nor last so long as it has this year. The dripping weather experienced during August just suited this Rudbeckia, which is perhaps affected by drought more quickly than any other hardy plant in cultivation. A few dry days with hot sun and its leaves commence to flag. What a splendid contrast the flowers are with those of *Aster amellus Bessarabicus*! Although we have a quantity of both I mean to further increase them this autumn. For making a border gay during the month of September it is difficult to find anything to equal, let alone excel them.—YORKSHIREMAN.

— CEDARS OF LEBANON.—An American botanist has claimed for the Cedar in the Jardin des Plantes in Paris, which was brought from Palestine by the elder De Candolle more than a century ago, the credit of being the oldest Cedar of Lebanon in Europe. There is evidence, however, as Mr. Veitch points out, that a specimen of this noble tree was introduced among us soon after the date of John Evelyn's "Silva, or Discourse on Trees, 1664;" and there is, it appears, now growing at Bretby, in Derbyshire, a specimen known to have been planted in 1676. De Candolle's tree has an interesting history, says a daily contemporary. The vessel in which he crossed the Mediterranean was unseaworthy, and during the prolonged voyage the sailors and passengers suffered greatly from the scarcity of water, but De Candolle resolutely denied himself, and gave his scanty portion to the little tree, which, thus saved from perishing, has become the living monument of the great botanist. [Our contemporary is in error about De Candolle.]

— A LATE COTTAGERS' SHOW.—Very unusual is it to see, so late in the year as November 4th, such a remarkable display of cottage garden produce as was furnished in the Corn Exchange, Farnham, Surrey, on that date. The local committee strive to join their cottagers' show with that of Chrysanthemums, and whilst the latter suffer because shunted into an upper room where they do not attract much attention, or make a brilliant display, the cottagers' department suffers because the products never are so good in quality as is the case when shown early in the autumn. The whole of the large Exchange Hall was literally crammed with Potatoes, all too big and coarse; Carrots, Turnips, Onions, Beet, Parsnips, Celery, Cabbages, and various other winter vegetables, some very fair, but many showing need for more tasteful selection, also the effects of a cold wet autumn. There was very considerable competition in the classes, especially in those for six dishes, prizes given by Messrs. Sutton and Sons and the local committee. There was also a good competition in the gardeners' class for twelve varieties of vegetables, for prizes offered by Messrs. Mortimer, Clarke, Harris, and Bide, all local seedsmen. A pretty group of plants sent by Mr. Dowden, gardener to the Bishop of Winchester, Farnham Castle, decorated the hall platform. Messrs. Mortimer, Cresswell, Harris, and others showed fair groups of Chrysanthemums, but cut flowers were few; the season, so far, had proved to be far too late for the local growers. Grapes were very good, and some capital Apples and Pears were staged. A very fine collection from Mr. Bide attracted much attention, as also did a beautiful lot of Lady Selborne white Chrysanthemums in boxes from Mr. Mortimer. Late in the afternoon, Mr. A. Dean, representing the Surrey County Council, gave an address to a large number of the exhibitors, dealing chiefly with the exhibits, the good and indifferent qualities of which were pointed out.

— THE WEATHER LAST MONTH.—October was a wet month with very little sunshine. We only had nine bright days during the month. The first snow of the season fell on night of the 21st. Wind was in a westerly direction for twenty-one days. We had gales on the 9th and 29th. Total rainfall was 4.03 inches, which fell on twenty-two days, the greatest daily fall being 0.76 inch on 13th; this is 1.09 inches above the average for the month. Barometer highest reading 30.30 at 9 A.M. on 19th, lowest 29.28 at 9 P.M. on 28th. Highest shade temperature, 60° on 29th; lowest, 24° on 26th; lowest on grass, 17° on 26th. Mean daily maximum, 50.61°; mean daily minimum, 37.67°; mean temperature of the month, 44.14°. The garden spring ran 18 gallons per minute on the 31st.—W. H. DIVERS, *Ketton Hall Gardens, Stamford*.

— THE WEATHER DURING OCTOBER AT RIPLEY, YORKS.—This was a very dull month, and will long be remembered in this locality owing to the heavy rainfall and great floods. At 8 P.M. on the 13th rain commenced falling heavily, and continued without cessation until 5 P.M. on the 15th. During that time (forty-five hours) we registered 3.75 inches. The river Nidd rose to an abnormal height, flooding a great extent of country, and causing a sad loss to those farmers who had land abutting on the river side. The total rainfall for the month was 6.54 inches, which fell upon twenty-two days, the greatest daily fall being 2.44 inches on the 14th. Frost was recorded on fourteen days, the most severe being 15° on the 26th. Mean reading of barometer, 29.72; mean maximum temperature, 51.2°; mean minimum temperature, 31.4°; mean temperature of month, 41.3°. On the 18th, 11° of frost put an end to the present season's display of Dahlias and other half-hardy flowers.—J. TUNNINGTON, *Ripley Castle Gardens, Yorks*.

— WINTER-BLOOMING CARNATIONS.—There seems to be no flower so universally required by those who can afford to grow or purchase them as Carnations. That applies especially to the winter-blooming section. Thus at Downside, Leatherhead, where there seems to be almost a wealth of plants of every description to furnish beautiful flowers in the winter, a large portion of a span-roof house is filled with plants in various sized pots of that fine deep scarlet Winter Cheer; Alegatière, Madame Carle, white; Improved Miss Jolliffe, a good salmon; Colonel Cox, deep red; Pride of Penshurst, yellow, and others. Winter Cheer is a peculiarly good grower, and produces very fine robust plants from spring-struck cuttings. These are either planted out, then lifted and potted in September, or are grown in pots in cool frames. These flowers seem to be indispensable for buttonhole purposes, and really give in blooms a large return for the labour and expense given to their cultivation.—A. D.

— SUMMARY OF METEOROLOGICAL OBSERVATIONS AT HODSOCK PRIORY, Worksop, Notts, for October, 1892.—Mean temperature of month, 44.9°. Maximum on the 28th, 59.6°; minimum on the 26th, 23.2°. Maximum in the sun on the 1st, 108.1°; minimum on the grass on the 26th, 17.7°. Mean temperature of air at 9 A.M., 44.1°; mean temperature of soil 1 foot deep, 47.3°. Nights below 32° in shade four, on grass fifteen. Total duration of sunshine in the month 102 hours, or 33 per cent. of possible duration. We had eight sunless days. Rainfall, total in the month, 4.39 inches. Rain fell on twenty-three days. Average velocity of wind, 9.1 miles per hour; velocity exceeded 400 miles on one day, but fell short of 100 miles on four days. Approximate averages for October.—Mean temperature, 48.1°; sunshine, eighty-three hours; rainfall, 2.73 inches. A cold and wet month, but a fair amount of sunshine. The mean temperature is as low as any October during the last sixteen years.—J. MALLENDER.

— DEVON AND EXETER GARDENERS' ASSOCIATION.—The members of the Devon and Exeter Gardeners' Association held a meeting at the Guildhall on November 2nd, when an excellent paper on "How a Scientific Knowledge of Plant Life can Help a Gardener," was read by Mr. J. Stoneman, teacher of botany at the Exeter Science School. The lecture was illustrated by several plants lent by Mr. Bartlett (gardener to Lady Duckworth, Knightleys), and Messrs. Veitch & Sons of the Royal Nurseries. A beautiful collection of Gloxinia blooms was also shown. Before the commencement of the lecture the Hon. Secretary (Mr. A. Hope) announced that he had received a communication from Mr. F. Pullinger, Secretary to the Devon County Council Technical Instruction Committee. It would be remembered that on September 16th he wrote to the Committee for a grant towards technical instruction in gardening. The reply was to the effect that the Committee regretted they were unable to recommend a grant to the Association for the purpose required. Still, he might state that with regard to this matter something would ultimately be done by the County Council.



CHRYSANTHEMUM SHOWS.

THE following Chrysanthemum Shows, which have been advertised in our columns, will be held during the ensuing week. For the convenience of readers we append the names and addresses of the respective Secretaries:—

- Nov. 10.—Calne. Fred C. Henley, Calne.
- „ 11 and 12.—Bradford and District. G. R. Taylor, 102, Goodwin Street, Bradford.
- „ 11 and 12.—Derby. H. J. Bell, Normanton Road, Derby.
- „ 11 and 12.—Leicester and Midland. W. Bell, Knighton Road, Leicester.
- „ 11 and 12.—Sheffield, Hallamshire, and West Riding. W. Housley, 172, Cemetery Road, Sheffield.
- „ 11 and 12.—Eccles, Patrieroff, Pendleton and District. H. Huber, Hazledene, Winton, Patrieroff.
- „ 15 and 16.—Liverpool. W. Dickson, 35, Victoria Street, Liverpool.
- „ 15 and 16.—West of England. Messrs. Wilson and Damerell, 4, North Hill, Plymouth.
- „ 15 and 16.—Wimbledon. Dr. Walker, 12, Lingfield Road, Wimbledon.
- „ 15 and 16.—Reading. W. L. Walker, Dunollie, Bulmershe Road, Reading.
- „ 16 and 17.—Hull and East Riding. E. Harland, Manor Street, Hull.
- „ 16 and 17.—Rugby. W. Bryant, 19, Oliver Street, Rugby.
- „ 16, 17 and 18.—York. J. Lazenby, 13, Feasgate, York.
- „ 17, 18 and 19.—Edinburgh. R. Laird, 11, South Frederick Street, Edinburgh.

THE NATIONAL CHRYSANTHEMUM SOCIETY AND ITS CERTIFICATES.

IN the last issue of the *Journal* there is a letter on the above subject from Mr. R. Dean, and also a copy of the resolution adopted by the sub-Committee which was appointed to inquire into circumstances detailed in your issue of October 27th.

I trust you will give me space to offer some little explanation which Mr. Dean's letter demands.

1, Apparently Mr. Dean wishes to make something out of the fact that the 12th of October was not the first time Beauty of Exmouth had been before the Committee. I have not suggested that it was. In Beauty of Exmouth I knew well I had a variety which would make its mark, and I wrote you asking particulars as to illustrating it, if you deemed it worthy of such honour. Your reply was, "First get it certificated by the N.C.S. and R.H.S.," and you certainly were quite within your right in thus advising me. You were not supposed to know that it had already been before the Floral Committee. But all this is immaterial to the point in question.

2, Mr. Dean says the action of a member of the Floral Committee in speaking disparagingly of my blooms is regrettable, but it is nothing more than what he has observed at the meetings of the R.H.S. Surely "two wrongs do not make a right" is applicable in this case. I quite concur in what Mr. Dean says as to his opinion being asked by exhibitors prior to blooms being placed before the Committee. If he had advised me to put my blooms "under the table" I should have done so without a murmur, and feel confident he was advising me for the best. But the member in question afterwards exhibited several varieties, which in my opinion were greatly inferior to mine, of which he spoke disparagingly, and as the action of the Floral Committee testified by a request to see my Duchess of Devonshire again, whilst, I believe, only one out of his several had this honour conferred on it.

3, Here again I quite agree with Mr. Dean, and do admire anyone who has the courage of his convictions, and, in spite of all consequences, will do his duty; but the member complained of could not think Beauty of Exmouth was similar to any other variety, or he would not have offered to have purchased the stock at a big price.

4, The only objection raised to the awarding of a first-class certificate to Beauty of Exmouth was, "It is Florence Davis, or very like it." Nothing was said about its being a foreign variety. Mr. Dean replied to this objection in rather an indignant tone, "But Mr. Godfrey says he raised it himself from seed of his own saving." Mr. Boyce then suggested that I, being present, should be called forward, and he repeated this suggestion several times. Ultimately I was asked by Mr. Dean to give an explanation. I did so, adding, "If it was Florence Davis, as alleged, how is it that no blooms of that variety were exhibited?" Mr. Cannell said there was one, and upon comparison my seedling was found to be decidedly superior. Still, the award of a first-class certificate was objected to by the member, who afterwards wished to purchase the stock "at a big price."

Mr. Dean considers I should have lodged the complaint with him, he being the Secretary. Well, perhaps I ought to have done so, for the charge is a serious one, and its truth is yet undenied. On the other hand I did not consider I was compelled to keep silence, and if the

representative of the *Journal*, and others, heard my remarks after the meeting he certainly had a right to attempt to correct what seemed to him an extraordinary statement of facts. Mr. Dean says I was in conversation with him several times after the rising of the Committee. To the best of my remembrance I only spoke to him twice, and in neither instance did we stand still, he being fully occupied with his official duties. But to me all these minor matters are side issues, the main point is this: I have brought a serious charge against an official of the National Chrysanthemum Society. Can this charge be substantiated? If so, was I justified in my complaint? also, if the charge of irregularity is well founded, what do the N.C.S. intend to do in the matter, so that its certificates may have their proper value, and the Floral Committee have the perfect confidence of the gardening public?

Now, as to the resolution of the committee of inquiry. The publication of the letter to you is unnecessary, as this committee have a copy of the said letter, wherein the name of the offending member is plainly stated. If they are in earnest, and really mean to deal with the matter without bias, I have no objection to the publication of the name and address of the member complained of.—W. J. GODFREY, *Exmouth*.

NATIONAL CHRYSANTHEMUM SOCIETY'S CATALOGUE.

MR. C. HARMAN PAYNE, Hon. Secretary of the Catalogue Committee of the National Chrysanthemum Society, sends us a supplement to the centenary edition. This is a decided acquisition, inasmuch as it contains a complete list of all the newest varieties. Being published at the modest price of 6d., it should be in the hands of every Chrysanthemum grower.

CHRYSANTHEMUMS AT "MY GARDEN."

As usual at this time of year Mr. Smee has thrown open "My Garden" for the public to view the Chrysanthemums all this week. The plants are in full flower and are arranged in the large span-roofed house. His kindness is highly appreciated by the residents of the neighbourhood.

Calls on Celebrities.

MESSRS. JAMES VEITCH & SONS.

A BRILLIANT display of Chrysanthemums now forms a great feature in Messrs. Veitch & Sons' nursery at Chelsea. The collection has been vastly improved this season, and the general expression of opinion by visitors is that it is far ahead of any previous shows of a like character. So far as varieties are concerned it is well up to date, and the plants have been admirably grown, so that the best of the novelties are represented by excellent blooms. The plants are arranged in a large and lofty house. There is a central bank extending the length of the house, and lines of plants at each side. These are all full of bloom, and the colours have been carefully harmonised, so that the view from the central path leading through the nursery is a very beautiful one, and creates a strong desire to enter.

Amongst the Japanese that appear to be particularly good this season is Mrs. Falconer Jameson. It has been staged in fine condition at various exhibitions, and is a strong feature of most collections. There are some splendid blooms of it at Chelsea. George Atkinson, a pure white Japanese with broad florets split at the tips, the centre faintly tinged with green, is represented by some good flowers. The hairy yellow Japanese varieties, W. A. Manda and H. Ballantine, are arousing some interest this season. The former is beautiful in colour, approaching apricot; but up to the present is somewhat thin. If weight and fullness can be got into the flower it will be a valuable variety. H. Ballantine is much earlier. At Chelsea some large heavy blooms are noticeable, which have been out since October; it is pale yellow, and by no means an ineffective flower. Bouquet des Dames is one of the best things in the whole collection. It is a somewhat early bloomer, very full, and with broad florets, white, very faintly tinged with pink; it is, however, now well known. Vivian Morel is another of the season's successes; it is good everywhere, and has turned out to be one of the greatest acquisitions ever made. There are some particularly fine blooms in Messrs. Veitch's collection. The run on this variety last season is likely to be repeated. Sokoto, a deep clear yellow Japanese, is also in very good condition, and Robert Cannell is another variety which is remarkably well done. This grand incurved has a great future before it, the blooms coming very heavy with good culture, and the colour being a popular and effective one. W. K. Woodcock is one of last season's novelties, and is likely to make its way. It is of the Bouquet des Dames type, but with shorter blunt florets, and the colour is bronzy yellow, the centre deeper. Colonel Smith is another of last season's varieties that is represented. It would not be at all surprising if the run on it this year should surpass that on Vivian Morel last season, for it is a noble variety with a striking individuality. Florence Davis is excellently shown, and so is W. Tricker, which is good all round this season.

A very prominent place amongst last season's novelties is taken by Mdle. Marie Hoste. It is a Japanese with very broad florets, and like Puritan, of most refined appearance. In the early stages of the flower it is tinted with rosy lilac, which is deepest toward the edges, but it is white when developed. A. H. Neve is an older Japanese worthy of a place; it is a strong grower, a free bloomer, and has very pleasing flowers, white tinted with blush. Miss Anna Hartzhorn is splendid and should not be overlooked by any grower. This grand new Japanese opens of a pinkish tinge, but speedily pales to white, and has very broad

substantial florets. C. E. Shea, the "yellow Lacroix" is finely grown at Chelsea. It is a valuable variety, though not of full exhibition size. Violet Rose is a handsome Japanese, the flower being a substantial one and the colour a rich deep rose, but it is rather late, terminals coming in in December. Mdme. Blanche Pigny is conspicuous for its freedom of flowering, and enough blooms may often be cut from an old plant for making a wreath. Cesare Costa is admirably grown and appears to be giving great satisfaction everywhere, while there are also excellent blooms of John Lambert and Mrs. Robinson King. Eugène Giat (J) is very good. It is a strong grower and is carrying some splendid flowers which display great depth. The colour is rich purplish rose. President Hyde is an improved Mabel Douglas and makes an excellent bush. The soft yellow flowers are very pleasing; Edwin Beckett, too, is excellent.

There will be many Chrysanthemum growers in town this week, and they may be advised to call at Chelsea. A visit will have its reward in the inspection of a collection which is representative and interesting in a high degree.

MESSRS. J. R. PEARSON & SONS.

BEESTON has deservedly won a high reputation for Chrysanthemums. Near the pleasant Nottinghamshire town are the nurseries of Messrs. Pearson & Sons, in which the autumn flower is grown on a scale and with a success not equalled in many other places. Mr. C. E. Pearson formed the nucleus of the collection, and when it developed such proportions as to claim more time than he could devote to it without letting other parts of the business suffer, the services of an expert were requisitioned. Mr. J. Pithers secured the reversion of Elijah's mantle. Few men have so great a knowledge of Chrysanthemums and their culture as he, and under his skilful care the collection has become one of the great sights of the season.

The great show house in the Chilwell nurseries is 100 feet long by 30 feet wide, and very lofty. It is a splendid structure, and when the plants are at their best there is no finer spectacle in the country than it presents. It is not all shell and no kernel, but is full of admirably grown plants. Many are carrying blooms of exhibition quality, others are trained specimens, and in the management of the latter as in the production of the former Mr. Pithers is an adept. Old and new varieties both claim attention. The new large Anemone Delaware is very conspicuous for its strong sturdy habit and fine flowers. Another new variety of the same section is Mdle. Nathalie Brun, which is noteworthy for its very full centre. It is white tipped with lemon. Emily Donec is a very promising Japanese with very deep flowers. The florets are white with lemon centre, incurving. It is an American variety of which more will be heard. John Farwell is a Sunflower-like Japanese with deep crimson flowers, and is well worthy of trial. Mermaid, white, tinted with lemon, is an American Japanese noteworthy for its sturdy habit. In this respect it compares favourably with Exquisite, of which the silvery rose shade is pleasing, but the tall weak growth much the reverse. Robert Flowerday is another transatlantic novelty. The incurving florets show the rosy lilac reverse, but the face is rich crimson. Evelina Stein is most pleasing with its soft blush shade, but the bloom is at present too thin. W. W. Coles is very fine. When in its best condition this is a most effective bloom. Colonel Smith is also splendid. Fine flowers of such Japanese as Bouquet des Dames, Puritan, Mrs. Alpheus Hardy (a much more vigorous form than the old one), Miss Anna Hartzhorn, Gorgeous, Stanstead White, W. H. Lincoln, and W. Tricker, are noticeable.

Amongst the incurved Robert Cannell is conspicuously good, and so are Alfred Salter, John Lambert, Lord Alcester, Mons. Bahuant, Ami Hoste (an improved Mrs. Shipman), and Beverley. There is, however, a home-raised seedling that may be classed as an improved Beverley, having a finer petal, and it will probably take a prominent place among white incurved. A Japanese seedling with crimson maroon flowers having a silvery reverse is also good. It is a strong Edouard Audiguier. A cross between William Holmes and Condor is also promising, uniting a large full flower of a deep rose hue with a vigorous habit of growth.

There are not so many continental novelties as may be seen elsewhere, for the firm buy carefully rather than indiscriminately, but the novelties of really sterling merit have a prominent place. No one who has an opportunity of getting to Beeston should omit to call. There will be much besides Chrysanthemums to see, but of this more later.

MESSRS. PITCHER & MANDA.

A VERY enterprising firm is the Anglo-American one named above. They got together an extensive business in the United States, then opened an English branch, and are publishing catalogues in several languages. From the first they have made themselves famous for Chrysanthemums, devoting their attention chiefly to novelties, and in their nursery at Hextable, near Swanley, they have a select collection under the general management of Mr. A. J. Manda and the special care of Mr. Robt. Hamill. We owe a great deal to America in the way of Japanese, some of our leading varieties having been raised there, and the number of novelties increases instead of diminishing. For everything new and promising Messrs. Pitcher & Manda keep a particularly sharp look out. They are working up a good stock of W. A. Manda, which might be described as a hairy-petalled Ralph Brocklebank, and it is worth noting that good flowers from crown buds are much more hairy than terminals. One of the best novelties they have is without doubt George W. Childs, a splendid Japanese reflexed with large rich brownish-crimson flowers, having a bluish suffusion. Plants in 48's are carrying fine blooms. The

habit of the plant is very strong and sturdy. Miss Annie Manda is a ure white with the hairy petals of Mrs. Alpheus Hardy, and much more vigorous. Of Colonel Smith there are some good blooms. This noble variety is splendidly grown at Hextable.

One of the most distinct Chrysanthemums yet introduced is Lord Brooke, and there is every promise of its turning out a splendid acquisition, for plants in 48's have done remarkably well, and are noteworthy for their fine foliage. The flower will probably be classed among the Japanese incurved. The colour is somewhat difficult to describe; apricot suffused with bronzy red, perhaps, hits it off pretty well. Mrs. Harman Payne is very likely to take a high position amongst the Japanese, for its soft rosy mauve flowers with their silvery reverse are very fine from the terminal bud; crowns are comparatively poor. Edwin Beckett is in very good condition, and makes an effective plant. The Tribune is a new yellow Japanese with very broad substantial florets of a clear pale yellow, and should be tried. Mrs. Ramsay is another well worthy of a trial. It is a Japanese with very broad rich rosy crimson florets. Delaware, the fine new Anemone flowered, is in splendid condition.

These named are a few among the many novelties grown, and which collectively make the display well worth inspecting. Visitors must not expect a great number of old varieties, for Messrs. Pitcher & Manda aspire to lead rather than follow, hence concentrate their attention upon new aspirants for favour. Their nursery is about twenty minutes' walk from Swanley Junction on the L. C. and D. main line, and is one of the places which should be marked for a call. The plants are excellently grown and form with the Cypripediums, of which a special feature is made, a display of more than ordinary interest.

CHRYSANTHEMUMS AROUND SHEFFIELD.

Mr. Henry Greaves, an amateur who grows a number of plants remarkably well in a part of the town not noted for its pure atmosphere, has this year, as in previous years, a fairly representative collection of the best leading Japanese and incurved varieties. The Japanese have a long low house to themselves, where they are developing some very fine blooms. Some of the most noticeable were several grand flowers of Vivian Morel, deep, clean, and large. Louis Boehmer and H. Ballantine, the hairy varieties, were promising well. W. Tricker had blooms of good size, substance, and colour, nearly fully developed at the end of October, and were shaded from strong sunshine. W. H. Lincoln was well forward; Etoile de Lyon had commenced to open; Mrs. J. Wright, with its compact white flower, composed of fluted florets; L'Automne, an incurved Japanese, and a beautiful flower of Elaine, symmetrical in form and of the purest white; also Stanstead Surprise were fully open. Many other good varieties promised well. The incurved flowers, which also had a separate house, were opening fairly well, among them Mons. R. Bahuant being grandly to the fore with good rich blooms. Noel Pragnell, the new sport from Empress of India, had nearly expanded flowers, distinctly displaying the narrow purple line down the centre of most of the petals. Many other leading kinds by their appearance indicated the unfolding of compact and shapely blooms, but upon the whole the majority are late this year.

Mr. Greaves has been a very creditable exhibitor of dwarf plants in bloom, but it is feared he will be considerably behind this year, as his plants though healthy and promising are scarcely sufficiently forward to make as large a display as he formerly has done at the Sheffield Show. Many of course will be right, including Mons. Bernard, L'Automne, and Sunflower. The plants have an excellent light house to themselves, and are of various heights in 4½, 5, and 6-inch pots. A week of favourable weather will hasten many on, now just showing, and though perhaps not able to construct a large group he may be able to form an interesting collection. He considers he ought to have taken cuttings earlier for his dwarf plants, the end of May being rather late in such a season as the present has been hereabouts. Probably another year he will act on his own advice and insert them, as he says he ought to have done, at the beginning of May. He has also utilised the plants from which the cuttings were taken, many of them breaking strongly after the topping, and giving good shoots that are now furnished with fine blooms.—E. D. S.

CHRYSANTHEMUMS AT DOWNSIDE.

THE village of glass houses which a few years since Mr. W. Lee had full of Orchids at Downside, is now under the control of Mr. W. Mease, whose liberal employer is Mr. Tate, son of Mr. H. Tate of Streatham. Mr. Mease is an old Liverpool man, and was amongst the foremost of Chrysanthemum growers in the famous town on the Mersey, when it was the function of Liverpool men to come south even so far as Kingston, and by taking all the best prizes show the southrons what they had to do to enable them to produce first-class flowers. Mr. Mease, like Mr. Molyneux, has come south himself, and for some two and a half years has been in charge of the Downside gardens at Leatherhead. He exhibits with some pride many fine cups and medals he has obtained for Chrysanthemums and other products from time to time, amongst others being the beautiful silver vase of the Wimbledon Chrysanthemum Society, won two years in succession, and to be won once more ere it becomes his property. Whether that consummation will result this year will be known shortly, as the Show takes place on November 15th inst. Then Mr. Mease is naturally desirous, if possible, of winning the Kingston challenge vase, and he means to have a good try for it this year. He was second to Mr. Carpenter, Major Collis Browne's gardener, at

Byfleet last year, and as both mean to do their very best on the 8th naturally the competition is looked forward to with exceeding interest. Both growers are real Greeks, and when they meet there will be a worthy tug of war.

Mr. Mease's collection of Chrysanthemum plants, disbudded for the production of show flowers, hardly exceeds 250—not a large batch, but he selects the best of their kinds, because any man of experience knows that certain sorts are far more reliable than others, and are better qualified to give the best show blooms. I found his finest plants in a broad span-roof house standing on the side stages, and a raised centre bed that naturally threw up the flowers high, and therefore a temporary path was made round the house by placing boards across on the level of the stages, so that visitors or growers were enabled to get a good look at the blooms.

So far as appearances go, these are fine and full of promise. Naturally it would be easy to say they will be hard to beat, but the competitions reveal many secrets hitherto unknown. Those who have seen Mr. Mease's blooms in the past, especially his splendid flowers at Wimbledon last year, admit that he can produce fine blooms. I should add that some 200 plants in large pots are grown for conservatory decoration and the furnishing of cut bloom. Of newer varieties, J. Stanborough Dibben, only 3½ feet in height, is carrying huge blooms of a rich orange buff colour. Colonel W. Smith, somewhat resembling the preceding, but has broader and rather darker-hued florets, is also in very fine form. No wonder larger show boards are needed when there are types of the new Japs, now being so abundantly introduced. G. C. Schwabe is a very striking incurved Jap, florets broad, of a reddish terra cotta hue on the golden reverse. Very fine also is the older Florence Davis, the centres in its earlier stages being very green, but becomes white later. Vivian Morel shows on same plants how it varies in colour, some buds giving very fine pink flowers, others pure white ones.

It seems evident that assumed white sports will have to be regarded with considerable dubiety. A very fine white is Vice-President Audiguier, the florets broadish and long, the outer ones having a pleasing pink tinge. Sunflower is very beautiful, and Mr. Cannell, another of the finest yellows when good, is opening well. Mr. Mease has a great liking for Cannell's Eynsford White, which is a very beautiful variety. Cesare Costa, a rich deep crimson, is very fine; so also is the somewhat early Gloire de Rocher, reddish buff with golden centre. W. H. Lincoln, very fine, too, is another of the grandest yellows; and Puritan, a beautiful flesh tinted white. These are but a few of the many varieties grown, but interest attaches far more to novelties now than to older varieties. Of incurved forms these are all the best. I only mention Mons. Bahuant, fine, and not too early for Kingston; Robert Cannell, golden buff, a grand variety, but subject to damp very much; and Ada Price, a beautiful incurved pink, not large, but very pleasing. Naturally in mixed classes the incurved flowers have to be first class to compete with the Japanese, which now are so fine. Any additions to the incurved section, especially of good sized blooms, is to be regarded with favour.

At Downside myriads of things are grown, and all well. In the score of houses devoted to plants there is not a poor or badly grown plant. Foliage plants, though not large, are really remarkably good. Crotons, Acalyphas, and Dracenas have very fine colouring; Ferns are splendid. One gigantic Microlepis is fully 10 feet across. Gardenias, both in pots and planted out in a bed, are clean and in the finest condition. Winter-blooming Carnations are very largely grown and in capital form. Zonal Pelargoniums, some 250 plants, are a perfect mass of bloom in diverse colours, a wonderful glow of colour for the time of year. Double Primulas are a great feature, especially Marchioness of Exeter, pure white. This is finely grown and flowered profusely. Even a collection of Rivers' best flavoured Oranges in pots are grown in one house, the varieties having the reputation of greatly excelling the best imported fruits in flavour. That is, at least, Mr. Mease's opinion. Hydrangeas on single stems carry immense heads, some fully 3 feet in circumference. These are from one-year-old cuttings.

Roses are very largely grown, although all the beds or borders in which the plants are have to be specially made, because the surface soil on the chalk is very shallow. When, however, first-prize flowers, chiefly of Teas, are found from Downside at the James Street Drill Hall and the Crystal Palace it is certain that the culture is good. In a very large Rose garden near the mansion one portion is devoted to Hybrid Perpetuals, one to Teas, and one to garden Roses in great variety, especially the free blooming Polyanthas. Mr. Mease prefers Teas outdoors on standards as giving much the finest blooms. These both stock and heads are protected with Fern during the winter. In a long span house, formerly devoted to Orchids, Tea Roses are now growing in beds and doing well. From this house last summer came the twenty-four fine blooms which placed Mr. Mease first at the Drill Hall, Westminster.—A. D.

COLONEL SMITH.

SOME attention was excited by the Japanese Colonel Smith when exhibited by Messrs. Cannell & Sons at the Crystal Palace show last year, but few, probably, imagined it would turn out so magnificent an acquisition as it has already proved itself to be. The Swanley growers have been the means of bringing several of our finest varieties into public notice, and the introduction of Colonel Smith is something for which we owe them a special debt of gratitude. It was one of a set of ten sent over by Mr. Spaulding, and soon turned out to be a gem

of the first water. Its merits are not restricted to beauty of bloom. The plant is not of the dwarfiest growth, being of medium height, but is very strong and sturdy, carrying splendid foliage.

The flowers are of the largest exhibition size, and a special character

imposing appearance. Probably flowers exceeding this in size will be produced in due course. The colour is a rich bronzy yellow, and the florets are tipped with gold. The variety is represented in the engraving (fig. 57), which was prepared from a photograph of one of Messrs.



FIG. 57.—CHRYSANTHEMUM COLONEL SMITH.

of them is a peculiar twist of the florets, which curve round towards the centre. This is very strongly marked in the early stages of development, and is not altogether lost when the flower has filled up. Good examples are 8 inches across by 5 inches deep, presenting a massive and

Cannell's flowers. They have a fine stock of the variety, and it is one of the most striking objects in their large collection. Colonel Smith is an acquisition such as is rarely secured, and every collection should embrace it.—W. P. W

THE WHITE VIVIAND MOREL CHRYSANTHEMUM.

I NOTICE Mr. Woodcock's account of this on page 379, but I find this variety varies very much in colour according to the time the buds are taken. Those taken very early come either white or very pale pink, while other flowers on the same plant taken later are deep pink in colour, so that great care should be exercised to insure the new white variety being quite true before it is distributed. I find some of the white Etoile de Lyon, syn. Miss Lilian Cope, are this season proving to be nothing but the old variety of Etoile de Lyon under a new name. This is a decided error, and very disappointing. We want new varieties if they are true and distinct and better than those already in commerce; but there seems too much haste in flooding the country with fresh names which have not had sufficient trial to decide whether they are sterling acquisitions.—W. H. DIVERS, *Ketton Hall Gardens, Stamford.*

[We understand that the Judges at the Crystal Palace Show did not feel justified in certificating a white sport of Vivian Morel on the ground that its constancy had not been sufficiently tested.]

SOUTHWARK PARK.

This park is situated in one of the most thickly populated districts in the metropolis, and it is greatly appreciated by the inhabitants of the neighbourhood. A Show of Chrysanthemums has been prepared here, and though the plants on the occasion of our visit were not yet at their best, there were many fine flowers to be seen, which reflect much credit on Mr. Bailey, the Superintendent, and to his grower, Mr. Fransham.

Upwards of 2000 plants are staged, and all of them are in excellent condition, they being of good habit, possessing strong and substantial foliage. Amongst the most prominent in the collection are Lady Selborne, Princess Teck, Mont Blanc, Fleure de Marie, Lord Wolseley, Lord Beaconsfield, Lady Hardinge, Etoile de Lyon, Refulgens, Louis Boehmer, Val d'Andorre (especially good), Gloire Rayonnante, Mdle. Lacroix, Edwin Molyneux, J. R. Pearson, Elaine, Edouard Audiguier, Gloria Mundi, Mont Blanc, Baronne de Prailly, Stanstead Surprise, Avalanche, Gorgeous, Charlotte de Montcabrier, Elsie Jordan, Puritan, Empress of India, Bouquet de Dame, Mrs. J. Wright, John Salter, and Countess of Derby. There are many other varieties in flower, and the number of visitors proves how much the public likes to see such an Exhibition.

CHRYSANTHEMUM SHOWS.

SITTINGBOURNE.—NOVEMBER 2ND.

THERE is no more able and persevering a body of gardeners, professional and amateur, than those composing the Sittingbourne and Milton Society. The late season militated heavily against the Chrysanthemum portion of their Show on the above date, but it did not interfere with the fruit and vegetables, which formed a magnificent display, and spoke eloquently of their ability. In such a pronounced fruit-growing district fine fruit is looked for as a matter of course, but the extent and quality of the vegetable section was astonishing.

The classes were too numerous to admit of details being given, but it should be mentioned that fruit was splendidly shown by Messrs. Aitken and Dowdeswell (on the promising condition of whose Vines a *Journal* correspondent commented in spring), A. J. Thomas, Axel, E. Thomas, Brook and others. Vegetables were shown finely by Messrs. Chopping (who exhibited Potatoes so well at Earl's Court), Dowdeswell, Mannoch, Fountain, Kennett, Aitken and many others. Messrs. Warrington, Dowdeswell, Aitken, E. Thomas, Chopping, Lurcurek, Edwards, Clinch, Kennett, and Fountain were conspicuous with plants and flowers. The stove and greenhouse plants staged by Messrs. Warrington and Dowdeswell were in very fine condition. On the exhibitors named, as also on others for whose names space cannot be found, the utmost credit was reflected, while Mr. Fryer, the Secretary, did his work thoroughly well.

Our Sittingbourne friends are going rapidly ahead, and evidently mean to be at the top of the tree with fruit and vegetables. The Society has an excellent President in G. Payne, Esq., the distinguished archaeologist, and the Treasurer, Mr. T. Henham, together with a good working Committee, are active in its interests.

ASCOT.—NOVEMBER 2ND AND 3RD.

THE ninth annual Exhibition, held as usual in the grand stand, was in every way a success. Groups of Chrysanthemums are always well shown here, but were not quite so numerous on this occasion, though the quality was equal to former years. Mr. Cowie, gardener to Kere L. Oliver, Esq., Whitmore Lodge, won easily in the large class with a grand bank of plants. Those in the front row were not more than 2 feet high, yet carried grand blooms and foliage. Mr. May, gardener to the Hon. Lady Isabella Krane, Sunningdale, was second; and Mr. Lane, gardener to Miss J. Durning Smith, Ascot, third. Mr. H. While, gardener to the Marchioness of Conyngham, Ascot, secured first award in the smaller class with a most creditable arrangement of both plants and blooms; Mr. Edge, gardener to Lord Harlech, Tedworth, Slough, being second.

Groups of miscellaneous plants are always a feature here. This season the winning exhibit was, perhaps, an improvement on former years. Mr. Thorne, gardener to Major Joicey, was first. For six plants of white Cyclamen, Mr. Woodhouse, gardener to Miss H. Belcher Spring, was placed first with really grand examples.

Cut blooms were quite up to the average in the Japanese section; but the lateness of the season was apparent in the incurved blooms, which showed a want of development. A silver cup was offered for

thirty-six distinct varieties, half to be incurved and the remainder Japanese, which Mr. Page, gardener to H. P. Leschallas, Esq., Bagshot, won rather easily. The Japanese were Vivian Morel, Miss A. Hartzhorn, Edwin Molyneux, M. Bernard, Stanstead White, Puritan, Sunflower, Mrs. F. Jameson, Madame J. Laing, Avalanche, W. Tricker, Margaret Marrouch, Vice-President Audiguier, W. W. Coles, Mr. E. Beckett, Val d'Andorre, and Mdme. B. Pigny. Incurved, Golden Queen of England, Queen of England, Mous. R. Bahuant, Empress of India, Lord Alcester, Lord Wolseley, Mdme. Darrier, Prince Alfred, Princess of Wales, Golden Empress, John Doughty, Princess Beatrice, Violet Tomlin, Pink Venus, John Salter, and Lady Hardinge. Mr. Lane was second with a creditable display. Mr. Page was also successful with twenty-four incurved, showing medium-sized neat blooms. Mr. Lane was second here also. Mr. Popple, gardener to the Hon. Lady Cowell, Stepney, Wood End, secured the premier award for one dozen incurved blooms. Mr. Edge was second. For six incurved, Mr. Woodhouse won with a creditable display.

The class for twelve Japanese was productive of strong competition and good quality of flower. Mr. Cowie was first; and Mr. Cole, gardener to E. Hamilton, Esq., Charteris, second. For six Japanese Mr. Popple won; Mr. Bird, gardener to D. G. Barnett, Esq., King's Beeches, being second. In the class for twelve distinct blooms of reflexed varieties Mr. May won the silver cup with medium sized yet full blooms of exquisite colour, Cullingfordi, King of Crimson, Chevalier Damage, Mrs. Neville, Distinction, and Pink Christine being the most noteworthy. Mrs. Cole was second. Six full blooms of Empress of India won for Mr. Joy, gardener to Mrs. Entwistle, Sunninghill, the first prize for that number of the Queen family only. Mr. Page was second with Golden Queen of England.

Avalanche was staged in splendid condition by Mr. Page for six any one variety white; Mr. Thorne being second with the same kind. For six any colour but white Mr. Joy won with richly coloured blooms of Edwin Molyneux, Mr. Page following with Vivian Morel; and Mrs. Cole, with Sunflower, secured third place. A class was provided for twelve blooms, to be staged with not less than 9 inches of stem above the board, with foliage attached. Mr. Lane was first with a really good exhibit, and Mr. Woodhouse second. The premier incurved bloom was Madame Darrier in Mr. Page's cup stand, while Vivian Morel secured a like honour in the Japanese section.

Fruit and vegetables were well shown in the numerous classes provided, though pressure on our space forbids more than a bare reference being made to this part of a compact Exhibition, where quality was the preponderating point all through.

PORTSMOUTH.—NOVEMBER 2ND, 3RD, AND 4TH.

THIS famous southern Exhibition, taken as a whole, fully maintained the reputation it has hitherto held. There was a slight falling off in the number and quality of the incurved blooms, owing entirely to the lateness of the season, but the Japanese were quite up to the average. The plant classes, however, were but moderately filled.

Cut blooms were the leading feature. No less than 1200 were staged, exclusive of Pompons, singles, and the fimbriated section, for which a class has been formed specially for them. Six entered for the handsome prizes of £10 for the first, £7 for the second, and £5 for third. Forty-eight blooms were required, half to be incurved and the remainder Japanese, in not less than eighteen varieties of each, not more than two of one kind. Mr. N. Molyneux, gardener to J. C. Garnier, Esq., Rooksbury Park, Wickham, Fareham, won somewhat easily. The Japanese very fine, heavy and fresh; the incurved were neat, but not large. The following varieties were shown—Japanese: Etoile de Lyon (2), Gloire du Rocher, Boule d'Or (2), Vivian Morel (2), Condor, Mrs. C. Wheeler, Florence Davis, Miss F. Spaulding, Alberic Lunden (2), Mdle. Marie Hoste (2), Val d'Andorre, Avalanche, Vice-President Audiguier, Puritan, Princess May (2), seedling, white, with narrow florets, of much substance and beauty; E. Molyneux, Mrs. F. Jameson, and W. H. Lincoln. Incurved: Golden Queen of England (2), Violet Tomlin (2), Wm. Shipman, Empress of India, Princess Beatrice, Golden Empress, Jeanne d'Arc, Mr. R. Mudie (2), Mons. R. Bahuant (2), Lord Alcester, Miss M. A. Haggas, Lady Hardinge, Mrs. Heale, Madame Darrier (2), Princess of Wales, Empress Eugénie, Novelty, Mrs. S. Coleman, and Mrs. Mitchell, a buff sport from Empress Eugénie lightly striped with purple. Mr. W. Neville, gardener to F. W. Flight, Cornstiles, Twyford, was second, and Mr. Inglefield, gardener to Sir J. Kelk, Bart., Tedworth, Marlborough, third.

The first prize for twenty-four, twelve Japanese and twelve incurved, distinct, was won easily by Mr. Inglefield with a good stand. The varieties were:—Japanese: Vivian Morel, M. J. M. Pigny, Stanstead Surprise, W. H. Lincoln, W. Tricker, Stanstead White, Gloire de Rocher, Sunflower, Avalanche, Puritan, Madame Laing, and Florence Davis. Incurved: Golden Queen of England, Golden Empress, Mons. Bahuant, Lord Alcester, J. Doughty, Prince Alfred, Empress of India, Lord Wolseley, Miss M. A. Haggas, Violet Tomlin, Jeanne d'Arc, and Empress Eugénie. Mr. N. Molyneux was a good second with heavier Japanese, but smaller incurved; and Mr. Penford, gardener to Sir F. Fitz-Wygram, Bart., M.P., Lee Park, Havant, third. Mr. Agate, Havant, was first with twelve Japanese, showing heavy fresh blooms. Mr. G. Hawkins, gardener to E. Laphorn, Esq., Gosport, was second; and Mr. R. Woodfine, gardener to Major Boyd, Emsworth House, Emsworth, third. Mr. Hawkins was successful for twelve incurved, staging medium sized but neat examples of the leading varieties. Mr. C. Steptoe, gardener to G. A. Gale, Esq., Horndean, was second; and Mr. W. Hunt, gardener to Sir William Pink, Shrover Hall, Cosham, third.

Reflexed varieties were fairly well represented. In the class for twelve, not less than eight varieties, Mr. H. Adams, gardener to T. S. Edgcombe, Esq., Hinton House, Elm Grove, Southsea, secured the premier award, followed by Messrs. Penford and Agate in the order named. Mr. Penford won easily for twelve Anemones, in not less than six varieties, with an excellent stand. Mr. Steptoe was second, and Mr. H. Adams third. Pompons were bright and numerous staged. Mr. Hatch, gardener to the Victoria Park Committee, was first for twelve bunches; Mr. Agate second; and Mr. Snook, 5, Fitzroy Street, Landport, third.

Fimbriated varieties are encouraged here, and very pretty they look shown in bunches of three blooms. Mr. Hatch secured first honours with a capital display, conspicuous amongst others being Seapin, Chardonnet, and Croesus. Nowhere is the single-flowered section so well represented as here. Mr. Agate staged the best twelve bunches, three blooms to a bunch. The most effective sorts were Jane, David Windsor, Jenny Lind, Kate, Golden Star, Mary Anderson, Bessie Conway, Effie, and Miss M. Wilde. Mr. W. Wells, Earlsfield Nurseries, Earlswood, Redhill, was second, and Mr. Hatch third.

Six Japanese, any one variety, were contributed by six competitors. Avalanche, full and fresh from Mr. N. Molyneux, secured the first prize; Mr. Agate with the same variety, being second; Mr. J. Tavener, gardener to Sir A. K. Macdonald, Bart., Liphook, was third. Princess of Wales extremely neat, placed Mr. W. Hunt first in the class for six incurved blooms; Messrs. Hawkins and N. Molyneux following. The premier incurved was Golden Empress, belonging to Mr. Inglefield, while Stanstead White, shown by Mr. Agate, was the best Japanese. Numerous prizes were offered for growers in Portsea Island only and for amateurs, all of which were keenly contested, many excellent stands being staged.

Messrs. Perkins & Sons, Coventry, were successful with a bouquet of Chrysanthemums and Ferns; Mr. F. Mills, 13, Florence Road, Southsea, being second. For an epergne dressed with berries and autumn foliage, Mrs. Conway, Havant, was first; and Miss O. Winch, Brockhurst, Gosport, was second. Mrs. Conway also had the best arranged table and epergne with Chrysanthemums.

For the best group in a space 50 square feet, arranged for effect, Mr. Hatch was an easy winner, Mr. Hunt being second. Prizes were also offered for a group of Chrysanthemums interspersed with foliage plants. Mr. J. Burridge, North End Nursery, Portsmouth, was first; and Mr. E. K. Harvey, 63, Hanover Street, Portsea, second. There was a splendid display of plants suitable for table decoration. For twelve Mr. J. Amys, gardener to the Hon. Mrs. Elliott Yorke, Hamble Cliff, Netley, was first; and Mr. Hatch was first for twelve double Primulas.

Fruit and vegetables were excellent. Grapes were best shown by Messrs. Grigg, Chalk, Hall, R. G. Hargreaves, Esq., Cuffnells, Lindhurst, and Mr. H. Becker, Jersey, the latter staging Trebbiano, weighing 10 lbs., in the class for the heaviest bunch. Apples and Pears were well shown by Mr. Becker; Messrs. Cheal & Sons, Crawley; Mr. E. Webster, East Street, Petworth; and Mr. G. Goldsmith, gardener to Sir E. G. Loder, Horsham. Vegetables were shown in splendid condition by Mr. G. Hawkins, Mr. Inglefield, and Mr. G. Best, gardener to Mrs. Chute, The Vyne, Basingstoke.

The Duke and Duchess of Connaught visited the Show during the afternoon, and took much interest in the various exhibits.

WELLS.—NOVEMBER 3RD AND 4TH.

THE seventh annual Exhibition of this Society was held in the Town Hall, Wells, on the above date. Groups of plants, to consist principally of Chrysanthemums, have always been a leading feature at Wells. The premier group was staged by Mr. J. B. Payne, gardener to the Lord Bishop of Bath and Wells. This fine group included magnificent blooms of Edwin Molyneux, Golden Dragon, Vivian Morel, and others. Poinsettias of a high order of merit, together with Palms, Crotons, Cordylines, Asparagus, Bouvardias, Epiphyllums, and Ferns, completed an imposing and well-balanced arrangement. Mr. O. Fewtrell, gardener to C. C. Tudway, Esq., was placed second, and Mr. H. Stokes, gardener to D. H. McLean, Esq., third. Cut blooms were numerous. In the class for twenty-four blooms, distinct, twelve incurved and twelve Japanese, Mr. Payne was first, staging incurved Empress of India, Alfred Lynne, Miss Haggas, Mons. Bahuant, John Lambert, Jeanne d'Arc, Robert Cannell, A. Salter, Lord Alcester, Queen of England, Mr. Bunn, and John Doughty. Japanese—Vivian Morel, Avalanche, Edwin Molyneux, W. H. Lincoln, Annie Clibran, Louise Boehmer, W. W. Coles, Kioto, Mons. Bernard, Miss Florence Davis, Gloire du Rocher, and Stanstead White. Mr. O. Fewtrell was second. The National Chrysanthemum Society's certificates were awarded to Mr. J. B. Payne for the best bloom in the Show, a superb Jeanne d'Arc in his premier stand of twenty-four; and to Mr. W. Potter for the best specimen plant, a good Prince Alfred. There was an imposing display of table decorations, also fruit and vegetables were admirably represented. The Show was a great and gratifying success.

HIGHGATE.—NOVEMBER 3RD AND 4TH.

THE annual Exhibition of the Highgate Chrysanthemum Society was held in the Northfield Hall on the above dates. There was an excellent display, cut blooms being good, whilst groups and miscellaneous plants made a charming effect.

The principal class was for thirty-six blooms, eighteen incurved and the same number of Japanese, and Mr. Rowbottom, gardener to H. R. Williams, Esq., Hornsey, N., was awarded first prize. The incurved blooms shown in this stand were good, but the Japanese were decidedly better. The exhibit included the following varieties:—Incurved:

Empress of India, Golden Jardin, A. Salter, Golden Empress, Lord Wolsley, Mrs. G. Rundle, Mons. R. Bahuant, Jeanne d'Arc, Mrs. W. Shipman, Golden Queen, Madame Darrier (very good), Mrs. Dixon, Lord Alcester, John Salter, Mrs. Heale, Queen of England, and Mr. Bunn. Japanese: Sunflower, Felix Cassagneau, Coronet, Puritan, Alberic Lunden, Madame E. Labat, E. Molyneux, Florence Davis, Golden Dragon, W. H. Lincoln, Vivian Morel, Avalanche, Etoile de Lyon, J. S. Dibben, Jean Delaux, Mrs. F. Jameson, and W. Tricker. Mr. Rowbottom also secured a special first prize of a silver challenge cup for twenty-four blooms, twelve incurved and twelve Japanese. The flowers in this stand were perhaps the best in the Show. The incurved varieties were better developed than in the first mentioned stand, Mons. R. Bahuant and Madame Darrier being specially good. Of the Japanese E. W. Clarke, Alberic Lunden, Sunflower, and W. Tricker were most conspicuous. Mr. Rowbottom was again first for twenty-four Japanese, distinct, showing Vivian Morel and W. H. Lincoln in splendid condition. Mr. J. Brookes, gardener to W. Reynolds, Esq., The Grove, Highgate, was second in this class; the third prize going to Mr. J. Sandford, gardener to G. W. Wright-Ingle, Esq., Wood House, North Finchley.

In a special class for twelve Japanese Mr. H. A. Page, gardener to F. Crisp, Esq., White House, New Southgate, was placed first with a stand of grand blooms, Sunflower, Mrs. F. Jameson, Lizzie Cartledge, and Louis Boehmer being particularly good. Mr. J. Brookes was second, and Mr. D. Hayler third. Mr. Page also had the best six Japs distinct, amongst which were splendid blooms of Vivian Morel and Sunflower. Mr. Rowbottom was a close second. The latter exhibitor, however, secured the first prize for six white Japanese, showing well-developed blooms of Florence Davis, Puritan, Stanstead White, Mrs. E. Beckett, Miss Anna Hartzhorn, and Mdle. Marie Hoste.

The incurved varieties were by no means equal to the Japanese in quality, but some fair blooms were staged in the various classes. Mr. T. L. Turk, gardener to F. Boney, Esq., Highgate, was first for twelve blooms, which included neat examples of Mons. R. Bahuant, Mrs. Heale, Empress of India, and Miss M. A. Haggas. Mr. Turk also secured the leading position for six blooms. For twelve incurved blooms, six varieties, Mr. H. H. Page gained premier honours, his stand being made up with Queen of England, Alfred Salter, Refulgens, Empress of India, J. Doughty, and Jeanne d'Arc. Mr. Rowbottom was second, and Mr. Hayler third. Mr. Rowbottom, however, had the best stand of six blooms, one variety, showing Madame Darrier in splendid condition. Mr. Page was second with Mons. R. Bahuant.

Groups and specimen plants were best shown by Mr. J. Brookes, and there was a good display of amateur classes. Messrs. B. S. Williams and Son, Upper Holloway, sent a not-for-competition group of foliage and flowering plants, as also did Messrs. Cutbush & Sons, Highgate, the latter firm likewise showing a collection of well coloured Apples.

GRIMSBY AND DISTRICT.—NOVEMBER 3RD AND 4TH.

THE third annual Show was held in the Town Hall, and was a success. Considering the early date there were some most noteworthy exhibits, although some of the incurved were badly finished.

The principal class for cut blooms was one for forty-eight, twenty-four of each, in not less than eighteen varieties. The first prize went to Mr. G. A. Carr, gardener to W. Welton, Esq., Watham Grove, who won the challenge cup for the second time, it being now his own property. The following varieties comprised his stands. Japanese: Louis Boehmer, premier bloom (2), Bouquet des Dames (2), Carew Underwood (2), Vivian Morel (2), Puritan, Gloriosum, C. Beauregard (2), Avalanche (2), A. Clibran, S. Owen, Elaine, Coronet, G. Daniels, T. Stephenson, A. Hardy, Gloire du Rocher. Incurved: Empress of India (2), Mons. R. Bahuant (2), Golden Empress (2), Lord Alcester (2), Emily Dale, Camille Flammarion (2), Queen of England (2), Refulgens (2), Madame Darrier (a most lovely bloom), Jardin des Plantes, A. Lyne, Mdle. E. Bertin, Mr. Bunn, Novelty, Nil Desperandum, Madame Nante, and Jeanne d'Arc. The second prize went to Sir Henry Bennett.

For twenty-four blooms, twelve of each, in not less than nine varieties, the first prize, consisting of a silver cup value 3 guineas, and £1 added, went to Mr. Granville Southwell, Waltham Hall, for an excellent stand. His incurved were in grand form, showing high cultivation. His principal blooms were Vivian Morel, Lilian B. Bird, Sunflower, Avalanche, Stanstead White. Incurved: Queen of England, Mons. R. Bahuant, Lord Alcester, A. Salter, Empress of India (champion incurved in the Show, and a grand bloom). The second prize was taken by Mr. G. Smith, The Elms, Grimsby.

For twelve Japanese Sir H. Bennett was first; with very good blooms indeed. Mr. G. A. Carr was second, and Mr. John Clark third. Mr. Granville Southwell was again first for twelve incurved with some good heavy blooms. Mr. G. Smith was second with even flowers. Mr. G. A. Carr gained the first prize for twelve reflexed, Mr. J. Clark being second, and Mrs. Grange, The Cedars, Lately, third.

Groups were a great feature, and excelled all previous exhibits. The first prize was awarded to Mr. F. Jell, gardener to Mrs. Grange, for a most magnificent group. The second prize went to Sir H. Bennett, and the third to Mr. Needham, Lime Tree Nurseries, Grimsby.

CRYSTAL PALACE.—NOVEMBER 4TH AND 5TH.

THE Palace Show being the earliest of the principal metropolitan exhibitions, naturally suffered from the lateness of the season. It was not so extensive as usual, nor were the flowers on the whole up to the average in quality. With the exception of Messrs. Drover's blooms in the principal class the incurved were much below the usual standard. There were size and substance about them, but most of them were rough

and coarse, lacking fulness and finish. The Fareham exhibitors managed to get an admirable stand together. Japanese were very good throughout, but the minor sections were not well represented. The groups deserve a special word of praise. Those of Messrs. Reid & Bornemann and Messrs. Carter & Co. were both very fine indeed.

There were six entries in the leading class, that for twenty-four Japanese and twenty-four incurved, and, considering the season, this number may be taken as highly satisfactory. The first prize went to Messrs. W. & G. Drover, Fareham, whose incurved were marvellously good, bearing in mind how backward the flowers are generally. Their Japanese were also excellent, and altogether the stand was a surprisingly strong one. The back row Japanese were:—Mrs. Wheeler, Vivand Morel (2), Florence Davis (a huge flower), Mrs. Falconer Jamieson, Etoile de Lyon, Edwin Molyneux, and Puritan. Middle row: Mons. Bernard, Mrs. F. Jameson, Mrs. E. W. Clarke (2), Mrs. Wheeler, Sunflower, Miss A. Hartzhorn, and J. S. Dibben. Front row: Mons. E. A. Carrière, E. Molyneux, Avalanche, Gloire du Rocher, Pelican, Mons. Bernard, Sarah Owen, and Condor. The back row incurved were Mons. Bahuant, John Lambert (2, very fine), Alfred Salter, Queen of England (2), Lord Alcester (splendid), and Golden Empress. Middle row: Princess of Wales, Lord Wolseley (2), Mons. Darrier (2), Prince Alfred, John Doughty, and Novelty. Front row: Prince Alfred, Jeanne d'Arc, Violet Tomlin, Mrs. Shipman, Nil Desperandum, Alfred Lyne, Prince of Wales, and Princess of Teck. The second prize fell to Mr. C. J. Salter, gardener to T. B. Haywood, Esq., Woodhatch Lodge, Reigate, whose Japanese were very fine, but the incurved much in the rear of Messrs. Drover's. The best of the former were Eynsford White, Edwin Beckett, E. Molyneux, and Vivand Morel; of the latter Empress of India, Queen of England, and Mons. Bahuant. Mr. Whittle, gardener to C. H. Goschen, Esq., Ballards, Addington, Croydon, was third with small incurved and medium Japanese, while Messrs. H. Ray & Co., Teynham, were fourth.

There were five competitors with eighteen incurved, and the winner was Mr. J. Douglas, gardener to Mrs. Whitbourn, Great Gearies, Ilford. His flowers were not of the highest quality, but considering the season were good. One or two lacked weight, and others were hardly filled. The varieties were as follows:—Back row: Golden Empress, John Doughty (very good), Emily Dale, Queen of England, Lord Alcester, and Empress of India. Middle row: Mons. Bahuant, Mrs. Coleman, Princess of Wales, Lord Wolseley, Alfred Salter, and Miss Haggas. Front row: Mrs. Heale, Violet Tomlin, Mrs. Shipman, Jeanne d'Arc, Ami Hoste, and Prince Alfred. Messrs. W. & G. Drover were second with flowers far below their others in quality. The back row blooms were coarse, and perhaps the best examples were Nil Desperandum, Mrs. Shipman, Novelty and Mons. Darrier. The latter was a beautiful flower. Mr. Cox, gardener to J. Trotter, Esq., Brickendon Grange, Hertford, was third; and Mr. Shoesmith, gardener to M. Hodgson, Esq., Shirley Cottage, Croydon, fourth. The best of five stands of twelve came from Mr. W. Howe, gardener to H. Tate, Esq., J.P., Park Hill, Streatham Common, whose flowers were of fair quality, but comprising no specially good examples. Lord Wolseley was perhaps the best. Mr. George Carpenter, gardener to Major Collis Browne, Broad Oaks, Byfleet, was second with large and substantial but somewhat rough flowers, Prince Alfred being the best. Mr. Collins, gardener to J. W. Carlisle, Esq., Hertford, was third, and Mr. A. Turner, gardener to C. F. Murray, Esq., Woodcote Hall, Epsom, fourth. Mr. Carpenter won with six of one variety, having a splendid box of Refulgens, the flowers being smooth, substantial, and very rich in colour. Mr. Shoesmith was second with Empress of India, Mr. S. Badworth third with Golden Empress, and Mr. A. Turner fourth with Lord Wolseley.

The Japanese were much more numerous than the incurved, as was expected. There were eight stands of eighteen blooms, and the best was that staged by Mr. Cox, whose flowers were effectively displayed on a large board. They were excellent examples, being large, fresh, and well coloured. The back row flowers were Etoile de Lyon (very fine) Boule d'Or, Vivand Morel (richly coloured), Avalanche (very fine), Edwin Molyneux, and Stanstead White. Middle row: Mons. Bernard (very fine), Miss Anna Hartzhorn, Louis Boehmer, Sunflower, Puritan, and W. H. Lincoln. Front row: Mrs. F. A. Spaulding, Vice-president Audiguier, Mrs. G. C. Schwabe, Mr. A. H. Neve, Gloire du Rocher and Mrs. E. W. Clarke. Mr. Douglas also had an excellent stand, and was placed second. He had Vivand Morel in splendid condition, and Mrs. F. Jameson was also very fine. Mr. Glen, Worth Park, Crawley was third, his Vivand Morel and Mrs. F. Jameson being the best blooms. Mr. Carpenter was fourth. Mr. Felgate, gardener to the Duchess of Wellington, Bushill, Walton-on-Thames, was first with twelve, his varieties being Sunflower, Leon Fraiche, Stanstead White, E. Molyneux, Condor, W. H. Lincoln, Vivand Morel, Avalanche (very fine), Puritan (beautiful), Cesare Costa, Boule d'Or, and Louis Boehmer. Mr. Howe was second with medium flowers; Mr. Ridge, gardener to S. Edy, Esq., Oatlands Lodge, Weybridge, third; and Mr. Robinson, gardener to W. Lawrence, Esq., Elmsfield, Hollingbourne, fourth. Two others competed. With six of one variety Mr. Howe was first. He had a beautiful box of Sunflower. Mr. Cox was second with Avalanche in splendid condition, Mr. Collins was third with Vivand Morel, and Mr. Ridge fourth with Sunflower, six others competing.

There were two stands of eighteen reflexed and Japanese reflexed, Mr. Salter winning with very clean, fresh flowers, and Mr. Felgate being second. Mr. Glen was the only exhibitor of Anemones and Japanese Anemones, and was deservedly placed first for an excellent box. Mr. J. Knapp, gardener to F. W. Amsden, Esq., Croydon, was placed first for twelve varieties of Pompons in threes with small neat flowers, larger

examples from Mr. Salter being second. The latter won with Pompon Anemones, Mr. Knapp here being second. Mr. Carpenter was placed first for twelve single varieties in threes, and Mr. Wells second. Both were charming boxes.

The groups were magnificent. That from Messrs. Reid & Bornemann was one of the finest ever put up. Colonel Smith, Vivand Morel, Sunflower, E. Molyneux, Avalanche, and Val d'Andorre were all effectively employed. The blooms throughout were fine, the colours effectively displayed, and the group finished by tiers of dwarf plants, ranging from 6 to 18 inches high, but all carrying good blooms. Messrs. Carter & Co. also arranged a splendid group, the plants being healthy, the blooms fine, and the colours beautifully blended. It was their best effort in grouping, and they deservedly received the second prize. Messrs. Mobsby & Son were third. Mr. T. W. Wilks, gardener to C. Ralph, Esq., Upper Norwood, won in the amateurs' class; Mr. Fry, gardener to W. Aste, Esq., Streatham Common, was second; and Mr. Carr, gardener to Mrs. Stephenson Clarke, third.

Trained plants formed a bold block of colour arranged by themselves. Mr. Cherry, gardener to Mrs. Gabriel, Streatham, was first with six trained incurved, staging healthy and well-flowered plants. Mr. Hughes, gardener to G. R. Higgins, Esq., Eastlands, Dulwich, was first with Pompons, having model plants, large, healthy, and well bloomed. Mr. Wesker, gardener to A. Heaver, Esq., Upper Tooting, won with Japanese, and other prizes went to Messrs. Wesker, Carr, and Cherry.

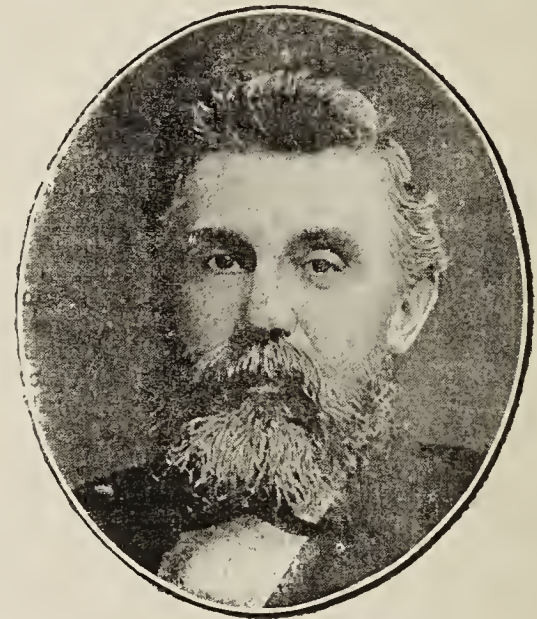


FIG. 58.—MR. W. G. HEAD.

First-class certificates were awarded to Colonel Smith, the grand new bronzy Japanese, which was shown in splendid condition by Messrs. Pitcher & Manda; G. W. Childs, a fine Japanese reflexed of dwarf growth with very broad florets of a rich lustrous purplish crimson, shown by the same firm, and Mdle. Marie Hoste, white or white shaded with lilac, a Japanese with broad evenly folded florets. Certificates would also have perhaps been awarded to Lord Brooke, G. C. Schwabe, and Mrs. Harman Payne had more than one bloom of each been staged. A first-class certificate was also awarded to the "clipper" cup and tube, for which Messrs. E. D. Shuttleworth & Co. are the wholesale agents. This fits in a circular metal ring screwed into the hole in the board, and the tube can be fixed at any height by simply pushing it up from below, so that it is not necessary to touch the flower.

Mr. W. Wells exhibited cut blooms of new and standard varieties, including Mrs. W. R. Wells, the white form of Vivand Morel, and a Japanese named Pride of Earlswood, a flower of the Avalanche build, but soft rose in colour. Messrs. Pitcher & Manda had a collection of novelties which excited considerable interest. The new large Anemone Delaware was very fine, and so was Colonel Smith. The Tribune is a pale yellow Japanese with very broad substantial florets. George W. Childs is very rich in colour, having a purplish suffusion and will probably secure a high place. Lord Brooke is very distinct in colour, and may prove to be an acquisition. It is yellow, with a deep bronze suffusion, and will perhaps be classed with the Japanese incurved. Mr. W. J. Godfrey exhibited his fine white Japanese Beauty of Exmouth, but their freshness had departed. Messrs. Cannell & Sons had some very fine blooms of Colonel Smith and Vivand Morel.

Messrs. Cheal & Sons had a splendid display of Apples and Pears, comprising about 130 dishes of large and highly coloured examples. Messrs. J. Peed & Sons had a collection of about 110 dishes of excellent fruit, the samples being large and bright. Messrs. J. Laing & Son had a similar number of dishes, and the fruit was conspicuous for its high quality. Messrs. E. D. Shuttleworth & Co. had a collection of table plants and choice Grasses, including Carex europæa variegata and Bambusa Fortunei, also a large group of Palms and fine-foliage plants, amongst which two splendid specimens of Aralia Chabrieri were very noteworthy. Messrs. Collins Bros. & Gabriel exhibited clusters of their excellent Tomato Challenger.

[We have much pleasure in publishing a portrait of Mr. W. G. Head (fig. 58), the Superintendent of the Crystal Palace Gardens, and under whose management the shows are so admirably arranged.]

KINGSTON-ON-THAMES.—NOVEMBER 8TH AND 9TH.

THE excellence of the Show at Kingston must have come somewhat as a surprise to those whose experience of Chrysanthemum exhibitions this season had led them to anticipate mediocre displays throughout the year. That it was hardly up to the average as respects the quality of the blooms, incurred at all events, would be readily admitted; nevertheless, collectively considered, it was an excellent and most attractive one. Cut blooms were very abundant, most of the classes being well filled. It will give an idea of the quality of the Japanese to state that in many cases the blooms were far too large for the boards, and it is to be hoped that exhibitors will not let another season go by without taking to the larger size. The success of Mr. Mease in the principal class was a confirmation of his form in the Liverpool district a few years ago. He was then a prominent winner at the northern shows, but up till this season had not displayed his full strength in the south. The competition for the challenge trophy has now assumed a most interesting phase, Messrs. C. Beckett, Carpenter, and Mease all having a share in the trophy. It can hardly be expected to escape another season. The chief interest of the Show still centres in this class, but there are numerous others in which good prizes are offered for cut blooms. Mr. Mease had the best incurred in the Show, and it will be a long time before his wonderful bloom of Mons. R. Bahuant is forgotten.

Specimen plants and groups were very good, the latter especially. Individual quality is desired in the groups at Kingston, and on this occasion it was present to a marked degree, the plants being splendidly grown. Trained plants were remarkably well bloomed considering the season. The arrangements were all of the best character, and the Show was thronged with visitors in the afternoon. Particulars of the principal awards are appended.

Mr. Mease, gardener to A. Tate, Esq., Downside, Leatherhead, won in the great class for the challenge vase, in which Messrs. Beckett and Carpenter had the half rights of a prior win. His Japanese were large and fine, and the incurred were very good on the whole, though hardly up to the average. His Japanese were Vivand Morel, J. S. Dibben (splendid), Vice-President Darquet, Danæ, Eynsford White, Sarah Owen, Condor, G. C. Schwabe, Miss Hartzhorn, E. Molyneux, Stanstead White, Sunflower, Geo. Daniels, Mrs. E. W. Clarke, Mdle. Lacroix, Etoile de Lyon, Florence Davis, Cesare Costa, Avalanche, Gloire du Rocher, Puritan, Colonel Smith, Mdle. Marie Hoste, and Japonaise. The incurred were Queen of England, Violet Tomlin, Lady Hardinge, Golden Empress, John Doughty, Lady Dorothy, Lord Wolseley, Empress of India, Jardin des Plantes, Miss Haggas, John Salter, Hero of Stoke Newington, Robt. Cannell, Mrs. Heale, Mrs. Shipman, Lord Alcester, Nil Desperandum, Princess of Teck, Princess of Wales, Mrs. Coleman, Lady Carey, Mons. R. Bahuant (a marvellous bloom), Jeanne d'Arc, and Empress Eugénie. Mr. Carpenter, gardener to Major Collis Browne, Broad Oaks, Byfleet, last year's winner, lost points both on the Japanese and incurred. The former were fresh, but somewhat undersized, and the latter lacked fulness and finish. Refulgens was very fine. Mr. C. Beckett, gardener to T. H. Bryant, Esq., Juniper Hill, Dorking, was third, his Japanese being heavy, but the incurred small. Violet Tomlin was far the best. The remaining prize went to Mr. A. Quarterman, gardener to C. E. Smith, Esq., Silvermere, Cobham, whose blooms were small, although very well finished.

Mr. Mease had an excellent stand of twenty-four incurred, although a few of the flowers were small. They were smooth, fresh, and bright. Mons. R. Bahuant, Empress of India, Lord Alcester, and Mrs. Coleman were a few of the best. Mr. W. Higgs, gardener to J. B. Hankey, Esq., Leatherhead, was a very good second. He had Empress of India and Lord Alcester in splendid condition. Mr. J. Thorne, gardener to A. E. Flood, Esq., Walton, was third with somewhat small flowers. Mr. Jinks, gardener to W. M. Grant, Esq., Cobham, had the best stand of twelve, and they were excellent, although one or two were undersized. Jeanne d'Arc was very good indeed. Mr. Hopkins, gardener to Mrs. Wadderspoon, Walton, was second with small but very neat flowers. Mr. A. Felgate, gardener to the Duchess of Wellington, Walton, third; and Mr. Wyatt, gardener to J. Perry, Esq., Caterham, fourth. Mr. Nuthall's first prize for six incurred went to Mr. Hawkes, gardener to G. B. Tate, Esq., Kingston, for a fair box, but comprising no specially good flowers. Mr. Ridge, gardener to C. S. Eady, Esq., Weybridge, was second. Mr. Carpenter showed Refulgens splendidly in the class for six of one variety, and won easily. Mr. Felgate was second with a beautiful box of Mrs. Heale, and Mr. Wyatt third with Queen of England. Messrs. Griffin, Dorsett, and Davis secured the prizes for district growers.

A splendid stand was exhibited by Mr. Woodgate, gardener to the Lady Wolverton, Kingston, for Messrs. Laing's special prize. It was for twelve each of Japanese and incurred, and the flowers throughout were excellent. Mr. Cawte, gardener to J. P. Robinson, Esq., Esher, was a close second. If anything his incurred were a trifle better than the others, but there was very little in it, and he lost ground on the Japanese. Mr. Holden, gardener to Mrs. Izod, Esher, was third. Major Collis Browne's prizes for Japanese, incurred, and Anemones were won by Messrs. Cawte (first with a beautiful box), Woodgate and Reed, gardener to E. Pettit, Esq. Mr. Sisson Hyde's first prize for Japanese, incurred and reflexed, was won by Mr. Mease with a beautiful box; a huge white bloom, described as a sport, and having the character of Vivand Morel, was very noteworthy. Mr. Woodgate was a good second.

Japanese were very finely shown. Mr. W. Higgs had a splendid box of twenty-four, but unfortunately they were densely packed and needed a larger board. W. H. Lincoln, Sunflower, Condor, Alberic Lunden, Mons. Carrière, and Violet Rose were splendid, the latter being par-

ticularly fine. Mr. Mease was second with somewhat smaller but still very fine flowers. Vivand Morel, J. S. Dibben, and G. C. Schwabe were amongst the best. Mr. Trinder, gardener to Sir H. Mildmay, Bart., Winchfield, was third, also with a very fine box. Mr. Felgate had a grand box of twelve, but they were sadly marred by overcrowding. W. W. Coles, Condor, Louis Boehmer, and W. H. Lincoln were very fine. Mr. Mileham, gardener to A. T. Miller, Esq., Leatherhead, was second, and Mr. Holden third, both having splendid blooms. Mr. Hopkins won with six, Miss Hartzhorn and Vivand Morel being splendid. Mr. Plowman, gardener to L. Laversmith, Esq., was second, and Mr. Quarterman third. Mr. Felgate won with six of one variety, Sunflower in grand condition representing him. Mr. Wyatt was second with Vivand Morel, very little inferior; and Mr. Carpenter third with a beautiful half dozen of Avalanche. Messrs. Griffin, Dorsett, and Wickins took the maiden prizes.

The minor sections were not too well represented. Mr. Carpenter, however, had a splendid box of twelve reflexed, and won easily. Mr. Mease also had a very good box; Mr. Felgate was third. Mr. Cawte won with twelve Anemones, a fairly good stand in which Mrs. Judge Benedict and J. Thorpe, Junior, were the best. Mr. Pitcher was second, and Mr. Woodgate third. The latter won with Pompons, Messrs. A. Nagle and Plowman being second and third. Messrs. Woodgate and Nagle were first and second with Anemone Pompons. Mr. Carpenter had a delightful box of singles, and was placed first, Mr. Woodgate being second. There were other classes for cut blooms.

The groups were, as usual, a great feature. Messrs. Puttock & Shepherd were first with a mixed group, and Mr. G. Mileham with Chrysanthemums. These were finely grown and carried excellent blooms. Mr. Pitcher was second, and also had a high class arrangement, although hardly so smooth as the other. Mr. J. Simmonds was third. It is not often better small groups are seen than these were. Mr. G. J. Cook and Mr. J. Reeves were second and third with mixed groups. The latter won with four trained Pompons, healthy and well bloomed, Mr. J. W. Reed being second, and Mr. Sallows third. Mr. Reed had the best trained Pompon, a fine plant of St. Michael. Mr. Reeves was first with three trained Japanese, all fine, well bloomed plants. The name of the winner of the first prize with six plants was out of sight, but Mr. Sallows was second. The table decorations were very attractive, and there was also a fine display of fruit, but for details of these classes space cannot, unfortunately, be found.

A first-class certificate was awarded to Mr. E. Molyneux for *Mrs. Mitchell* Chrysanthemum, of which three blooms were exhibited. It is a sport of Empress Eugénie that occurred and was fixed in New Zealand. They exactly resembled that pretty variety in size, shape, and character, but the colour is pale buff with a faint suffusion of purple. A first-class certificate was also awarded to Dr. George Walker for his clipper tube. The tubes containing blooms for exhibition are clipped by the socket or lining in the holes of the board, and the flowers can be raised without drawing the stems out of the water. Simple, cheap, and efficient.

NATIONAL CHRYSANTHEMUM SOCIETY.—NOVEMBER 8TH, 9TH, AND 10TH.

THE great autumn Exhibition of the National Chrysanthemum Society opened on Tuesday at the Royal Aquarium, continuing the two following days. As a whole the Show compared favourably with those of former years, although there appeared to be a falling off in some of the classes. The Japanese blooms were very fine, but the incurred varieties in many instances were badly finished, although in a few stands some grand flowers were staged. Groups were very fine, and the same may be said of the trained plants. In a bad light, however, it was impossible to see the true colours and beauty of the flowers.

OPEN CLASSES.

In class 1, open to Chrysanthemum and horticultural societies, for forty-eight blooms, half Japanese and half incurred, there were but two entries. The St. Neots Amateur and Cottage Horticultural Society, St. Neots, Hunts, secured the first prize; Mr. J. Myers, Knaresbrook, Hunts, and Mr. R. Petfield, Doddington Hall, Hunts, contributing the blooms. The flowers, although good, were not equal to those shown on previous occasions. The Japanese varieties were—Back row: Vivand Morel (good), E. Molyneux, F. Davis, E. W. Clarke, Stanstead White, Etoile de Lyon, G. Daniel, and Mons. Bernard. Middle row: Eynsford White, G. C. Schwabe (fine), Avalanche, Madame Audiguier, Mr. A. C. Carrière, Louis Boehmer (good), Madame M. Hoste, and Violet Rose. Front row: Sunflower, Excelsior, Beauty of Castle Hill, Jules Tussaunt, W. Lane, Val d'Andorre, Madame Lacroix, and E. Becket. The incurred were rather small and fairly well finished. The varieties were—Back row: John Lambert (good), Miss Wilson, Golden Empress of India (very good), Queen of England, John Salter, Empress of India, Violet Tomlin, and Miss Haggas. Middle row: Princess of Wales, Lord Alcester, Lord Wolseley, Mrs. R. King, Novelty, Mons. R. Bahuant, Jardin des Plantes, and Alfred Salter. Front row: A. Lyne, Princess Teck, Madame P. S. Blancart, Mdle. A. Hoste, Princess Beatrice, Mrs. Wm. Shipman, Refulgens, and Madame Darrier. The Havant Chrysanthemum Society secured the second prize for stands of excellent blooms, which were contributed by Messrs. J. Agate and C. Penfold.

Incurred.—The first prize including the Holmes Memorial challenge cup, for thirty-six incurred blooms was awarded to Messrs. W. & G. Drover, Fareham, who staged the following varieties.—Back row: Queen of England, Mons. R. Bahuant, Golden Empress of India, Alfred Salter, Robert Cannell, Lord Alcester, Guernsey Nugget, John Doughty,

Mrs. Robinson King, Lord Wolseley, and John Lambert. Middle row : Empress Eugénie, Jeanne d'Arc, Nil Desperandum, Mrs. Heale, Princess of Wales, John Salter, Princess of Teck, Mrs. W. Shipman, Prince Alfred, Lady Hardinge, Mrs. S. Coleman, and Violet Tomlin. Front row : Abbot's White, Lady Carey, Madame Darrier, Mme. F. Mistral, Novelty, Beauty, Miss M. A. Haggas, White Venus, Cherub, Mrs. N. Davis, Alfred Lyne, and Lady Dorothy. The second prize in this class was accorded to Mr. W. G. Ray, nurseryman, Teynham, Kent, whose flowers were very creditable ; the third prize going to Mr. Charles Gibson, gardener to J. Wormald, Esq., Morden Park, Mitcham, Surrey. Mr. Shoemith, gardener to M. Hodgson, Esq., Shirley, Croydon, gained first prize for twenty-four incurved blooms, showing very good flowers. Back row : John Lambert, Violet Tomlin, Empress of India, Mons. R. Bahuant, Jeanne d'Arc, Lord Alcester, Lord Wolseley, and Queen of England. Middle row : Princess of Wales, Golden Empress, Madame Darrier, Alfred Salter, Mrs. Heale, Mrs. Coleman, Miss M. A. Haggas, and Princess of Teck. Front row : Lady Dorothy, Hero of Stoke Newington, Venus, Mr. Bunn, Mme. F. Mistral, Mr. Brunlees, and Refulgens. The second and third prizes went to Mr. Ritchings, gardener to Dr. Frankland, F.R.H.S., Reigate Hill ; and Mr. J. Myers, gardener to the Earl of Sandwich, Huntingdon, respectively. Mr. Arthur Ocock, gardener to Mrs. McIntosh, Havering Park, Romford, gained first prize for twelve incurved blooms, staging Lord Alcester, Violet Tomlin, Empress of India, Miss M. A. Haggas, Golden Eagle, Princess of Wales, Golden Empress (2), Lord Wolseley, Mrs. S. Coleman, White Venus, Golden Queen of England, and Jeanne d'Arc. Mr. Collins, gardener to J. W. Carlile, Esq., Ponsbourne Park, Hertford, was a very close second ; and Mr. Agate, nurseryman, Havant, was third. For six incurved blooms of one variety, Mr. Myers was first with very fine flowers of Empress of India ; Mr. Hewett, gardener to H. B. Mackeson, Esq., Hillside House, Hythe, second ; and Mr. Mackenzie, gardener to F. S. W. Cornwallis, Esq., Linton Park, Maidstone, third.

Japanese.—The flowers in the class for forty-eight Japanese were very fine, especially those staged by Mr. Herbert Fowler, Taunton, to whom the first prize was awarded. The blooms in this stand were brightly coloured, fresh, and well developed. The varieties shown were Vivand Morel (grand), Sunflower, Lord Brooke, Carew Underwood, Avalanche, Ruth Cleveland, Puritan, Mr. D. B. Crane, Mrs. Alpheus Hardy (good), Louis Boehmer (grand), Beauty of Castlewood, Mrs. J. S. Fogg, Ralph Brocklebank, Mons. Bernard, Eynsford White, Baronne de Prailly, Mdle. Marie Hoste, Mr. E. Becket (fine), Boule d'Or, Hamlet, Mons. Freeman, W. Tricker (excellent), W. H. Lincoln (splendid), Mr. H. B. Ironside, Colonel Smith (magnificent), Mrs. W. Herbert Fowler, Lady T. Lawrence, Mrs. J. Clarke (good), Japonaise, Aïla, W. W. Colles, Gloriosum, Mr. R. Williams, Stanstead White, Gloire du Rocher, Lilian Bird, Etoile de Lyon, Miss Anna Hartzhorn, Madame Baco, Mrs. E. D. Adams, Mrs. F. Jameson, Ethel Paule, E. Molyneux, Mrs. J. Laing, Florence Davis, Mrs. G. Bryceson, and Coronet. Mr. J. Myers was second, and Messrs. W. & G. Drover, Fareham, third with good blooms ; the fourth prize going to Mr. C. Gibson.

For twenty-four Japanese, distinct, Mr. Herbert W. Fowler, Taunton, was also an excellent first. He showed Vivand Morel, Florence Davis, E. Molyneux, Sunflower, Etoile de Lyon, Mrs. E. D. Adams, W. W. Colles, Stanstead White, Gloriosum, Mr. W. H. Neve, Mons. Bernard, Mrs. C. H. Wheeler, Puritan, Coronet, W. Tricker, Avalanche, Mrs. W. H. Fowler, Eynsford White, Madame Baco, Sarah Owen, Mrs. G. Bryceson, Miss A. Hartzhorn, Japonaise, and Madame J. Laing. Mr. Ritchings, gardener to Dr. Frankland, Reigate, was second. Mr. Ling, gardener to E. P. Oakshott, Esq., Orchard Dene, Ealing, third ; and Mr. Robt. Petfield, gardener to A. J. Thornhill, Esq., Diddington, Huntingdon, fourth.

Mr. Ocock, gardener to Mrs. McIntosh, Romford, was awarded first prize for twelve Japanese, distinct, which included Vivand Morel, Florence Davis, W. H. Lincoln, and Gloire du Rocher. Mr. Trinder, Dogmersfield Gardens, was second ; Mr. Harding, gardener to Mrs. Joad, Datchingham, third ; and Mr. Geo. Carpenter, gardener to Major Collis Brown, Broad Oaks, Byfleet, fourth. For six Japanese blooms, white, one variety only, Mr. J. Hewitt, gardener to H. B. Mackeson, Esq., Hythe, was first, showing six grand blooms of Stanstead White. Mr. Cox, gardener to J. Trotter, Esq., Bickenden Grange, Hertford, was second, and Mr. Harding third. For six blooms of Japanese of any colour except white, Mr. J. Douglas, Great Gearies Gardens, Ilford, was first with magnificent examples of Vivand Morel. Mr. Collins was second, and Mr. Howe, gardener to H. Tate, Esq., Streatham Common, third. Mr. R. Petfield was adjudged first prize for six incurved Japanese blooms. The second and third prizes were won by Mr. Howe and Mr. M. Harding.

Reflexed, Anemones, and Pompons.—The reflexed were not numerous, and the blooms in several stands might have been better. Mr. G. Carpenter, gardener to Major Collis Brown, was first for twelve blooms, showing among others Chevalier Domage, King of the Crimsons, Cloth of Gold, Dr. Sharp, and Cullingfordi, in good form. Mr. G. Myers was second ; and Mr. C. Brown, gardener to R. Henty, Esq., Langley House, Abbots Langley, third.

Mr. A. Ives, gardener to E. J. Jukes, Esq., Hadley Lodge, Barnet, had the best stand of twenty-four blooms of the large Anemone flowered section. The flowers were fresh and brightly coloured. Mr. Ives was also first for twelve large Anemone blooms ; Mr. Nutcott second, and Mr. C. White, Southsea, third. Mr. Ives was again adjudged first prize for twelve Japanese Anemone blooms. For twelve Anemone Pompons, distinct, the first prize was awarded to Mr. Myers. Mr. C. Brown

gained the first prize for twelve Pompons ; Mr. Myers being second, Mr. Agate, Havant, third.

AMATEURS' CLASSES.

The blooms in these were exceptionally good, though pressure on our space forbids details. Mr. H. G. Featherley, Bleak House, Gillingham, was a good first with twenty-four Japanese blooms, eighteen varieties, amongst which was a splendid flower of Vivand Morel. Mr. J. Herril, West Street, Havant, staged the best twelve incurved b'ooms, the flowers being neat and well finished. Mr. C. White, Southsea, was second. Mr. Horrill also secured first prize for six incurved blooms, the second award being taken by Dr. Walker, Lingfield Road, Wimbledon. Mr. Thos. Langley, Pinner Road, Watford, had the best twelve Japs, showing splendid blooms ; the second prize going to Mr. F. Hicks, Elstree, Herts. Mr. F. Durrant, New Road, Ware, had the best six Japanese blooms, Mr. J. Horrill following.

Mr. James Heath, gardener to M. Gurry, Esq., Abington Place, Newmarket, secured the leading award for twelve incurved varieties in this section, showing neat and well finished blooms. Mr. C. White was second, and Mr. J. Heath third. Mr. J. Little, Hylands, Romford, was first for six incurved blooms.

GROUPS AND TRAINED PLANTS.

Groups were very fine. For a group of any varieties, arranged in a space equal to 100 square feet, Mr. Norman Davis, Camberwell, secured the first prize, the second going to Messrs. Reid & Bornemann, Sydenham. In both groups the flowers were good and well developed. Mr. G. Stevens, St. John's Nursery, Putney, was third. The plants in this group were carrying splendid flowers.

For six trained standard specimens of large flowered varieties, Mr. D. Donald, gardener to G. G. Barelay, Esq., Leyton, was first, his plants being splendidly grown. Mr. Robert Clark, gardener to W. Griffiths, Esq., 44, Palace Road, Streatham, secured the premier award for trained specimens of the large flowered section. Mr. F. Gibbs, gardener to W. E. Frier, Esq., Elm House, Walthamstow, was second with well trained plants. Mr. W. Davey, gardener to C. Paine, Esq., Cedar House, Stamford Hill, was first for four standards, and third for the same number of bush plants, and second for one specimen. Mr. D. Donald also had the best six trained specimens of the large flowered section ; the second prize going to Mr. J. Brookes, gardener to W. Reynolds, Esq., J.P., Highgate. Mr. Gibbs was first with Pompons ; Mr. Davey second ; and Mr. W. Wesker, gardener to A. Haver, Esq., Tooting Beck Road, Upper Tooting.

MISCELLANEOUS.

Mr. R. Owen, Floral Nursery, Castle Hill, Maidenhead, sent a collection of new varieties not for competition, amongst them being some very fine blooms. Yellow Avalanche is a charming flower of medium size. Messrs. Pitcher & Manda, Hextable, also staged a grand collection of recently introduced and new varieties, as likewise did Mr. H. J. Jones, Ryecroft Nursery, Lewisham. The latter blooms were tastefully set up with Ferns in small pots. Mr. W. Wells, Earlswood Nurseries, showed a collection of miscellaneous varieties. The flowers were fresh and well developed.

Messrs. Cannell & Sons, Swanley, staged a magnificent group of Zonal Pelargoniums, including many of the latest varieties. They also showed a group of Chrysanthemums and a charming collection of Cyclamen in flower. Messrs. E. D. Shuttleworth & Co., of Fleet, Hants, and Peckham Rye, had a group of foliage plants. Messrs. W. Edwards and Son, Sherwood, Nottingham, sent a fine group of Ferns in pretty decorative pots, called the New Edwardiane, a combination of cork and pot, producing, when filled with Ferns, a most charming effect. Messrs. B. S. Williams & Son, Victoria Nurseries, Upper Holloway, staged a group of foliage and flowering plants.

For a table of bouquets, wreaths, and sprays, Mr. J. R. Chard, Brunswick Nursery, Stoke Newington, was first. Messrs. Perkins and Son, nurserymen, Coventry, second, and Mr. H. O. Garford, florist, Stoke Newington, third. Mr. F. W. Seale, Vine Nurseries, Sevenoaks, was adjudged first prize for three vases or epergne. Mrs. W. Mole, High Street, Hemel Hempstead, was second, and Mr. Potter, gardener to Sir M. W. Collet, Bart., St. Clere, Kemsing, Sevenoaks, was third. For two bouquets of Chrysanthemums Mr. Potter, Kemsing, Sevenoaks, was first ; Mr. Chadwick, 8, Dorset Gardens, Brighton, second ; and Mr. Ings, gardener to Sir J. Spencer Wells, Bart., Hampstead, third.

For the special prizes offered by various firms Mr. W. H. Fowler, Taunton, was awarded first for six blooms in not less than four distinct varieties. The first prize for three blooms of the best new Japanese was awarded to Mr. W. Seward, The Firs, Hanwell, who staged magnificent blooms of John Shrimpton. Mr. W. G. Gilbert, gardener to B. Le Neve-Foster, Esq., J.P., Sennon Hall, Guist, Norfolk, was first for three new varieties ; and for three blooms each of any new seedling Chrysanthemums Mr. H. Shoemith, gardener to M. Hodgson, Esq., Croydon, was awarded third prize, showing Professor Wittmack and Dr. Kawallek.

New varieties were numerous. W. Seward, Esq., The Firs, Hanwell, sent blooms of several new varieties, amongst them being C. Thompson, a crimson Jap with silvery reverse, and Princess Victoria, white reflexed Jap ; first-class certificates were awarded these. Mr. C. Blick, The Warrens, Hayes Common, sent blooms of an incurved Jap named Mrs. A. H. Glasham, a lemon coloured variety, so far as could be seen in a very bad light. Messrs. J. R. Pearson & Sons, Chilwell, had Mermaid, a splendid white incurved Jap, and Edwin Lindsdal, a reflexed Jap of a promising character. Messrs. Carter & Co. sent White Pearl, a charming decorative white, and Rosy Morn, the latter being adjudged a first-

class certificate. Mr. W. G. Godfrey had a stand of Beauty of Exmouth and Duchess of Devonshire. Mr. H. J. Jones secured a first-class certificate for Mr. Chas. Blick, a charming pale yellow Japanese. Mr. R. Owen also gained certificates for Robert Petfield and Lucy Kendal, both promising incurred varieties. Several others were also shown, though these must be referred to next week.

Fruit was well represented. Messrs. Cutbush & Sons, Highgate staged a collection of Apples, as also did Messrs. J. Cheal & Sons and Messrs. J. Laing & Sons. Mr. J. Edmond, Bestwood Lodge, Notts; Mr. A. Ocock, Havering Park, Romford; and Mr. W. Allan, Gunton Park, Norwich, were among the prizewinners in the classes for black Grapes; and white Grapes were best shown by Mr. W. Harman, gardener to the Earl of Denbigh, Newnham Paddock, Lutterworth. Messrs. Rivers and Sons, Sawbridgeworth, also sent a collection of well-coloured Apples.

Vegetables were also very fine, especially those in competition for the prizes offered by Messrs. Sutton & Sons. Mr. J. Gibson, The Oaks, Carshaiton, was first with a grand collection; Mr. R. Lye, Sydmonton Court, Newbury, second; and Mr. C. Waite, Glenhurst, Esher, third. Mr. Waite was first, however, for Messrs. Webb & Sons' prize; Mr. W. Pope, Highclere Castle, second; and Mr. R. Lye third.



FRUIT FORCING.

Vines.—*Early Forced Vines in Pots.*—There must not be any further delay in getting the house ready and placing the Vines in position. To increase the weight and quality of the Grapes the apertures in the pots should be widened and some turfy loam placed within easy reach of the roots. This is best effected by erecting pedestals of loose bricks for the pots to stand on, and then building up against these pedestals turfy loam, in alternate layers with lime rubbish, from the bottom to a little above the side apertures in the pots. By introducing Oak or Beech leaves into the pit they will supply a genial warmth and moisture in the early stages, and rich stimulating food towards the close. The heat about the pots must not, however, exceed 65° at the start, the leaves being added to and raised to the rims of the pots so as to raise the temperature to 70° or 75° by the time the Vines are in leaf. Although it is necessary to have the soil moderately moist, an excess of water is undesirable in the early stages, as it is injurious to the fibres; merely keep the soil moist until the Vines start into leaf, increasing the supply as the foliage unfolds. The canes should be placed in a horizontal position to insure the buds breaking evenly, damping the Vines and house two or three times a day, and maintaining a temperature of 55°, and 65° on fine days.

Early Planted-out Vines.—When young and vigorous Vines have to be started for the first time to afford ripe Grapes at the end of April or early in May, the house must be closed by the middle of the month, for they do not, as a rule, "break" so quickly as Vines that have been forced for a number of years. The Vines will need to be brought into a horizontal position and be well syringed with tepid water, or about 10° warmer than the house, two or three times a day. The temperature of the house may average 50° at night, 55° by day, and 65° on bright days. Older Vines, or those that have previously been forced, need not be started until the beginning of December.

Houses Cleared of Grapes.—When the Vines are leafless and the Grapes cut attend to the pruning without delay, for nothing contributes more to a good break than an early and complete period of rest. Vines in good condition, having stout short-jointed wood thoroughly ripened, may safely be pruned to a couple of buds. The latter, however, are not always sufficiently developed at the base of the annual growths to give as large bunches as desired, and in that case the laterals may be left a little longer, say one or two more buds. It is necessary that a plump, round (not large and flat), well-developed bud on stout, hard, thoroughly ripe wood be selected for pruning to, as such usually produces a close compact bunch of well-set berries. Well-ripened wood is paramount for the production of Grapes, but the basal buds are often small, and this arises from a number of causes; sometimes from overcropping, at others through overcrowding, frequently from excessive vigour, and oftentimes from weakness. The result is small bunches, or none at all, when hard and fast lines of pruning are practised. Pruners must therefore exercise judgment, avoiding pointed buds, as they are not usually productive of bunches. Wash the house thoroughly, cleansing the glass and woodwork. Remove all the loose bark on the Vines, but avoid injuring the rods by needless peeling and scraping. Wash the Vines with tepid soapy water, 3 ozs. of softsoap to a gallon of water, using a brush effectively, yet with care and judgment, so as to reach and dislodge any hibernating pests. After an efficient washing follow with an insecticide. Those advertised answer well if care is taken to follow the instructions. Remove the remains of the mulching, also the surface material down to the roots, especially near the collar, and supply a top-dressing of fresh turfy loam chopped moderately small, and to a barrowload (about 3 bushels) add a quart each of steamed bonemeal and soot, and half a peck of wood ashes, incorporating thoroughly. Do not employ more of the mixture than suffices to cover the roots a couple

of inches. This will encourage surface roots, and when these are active and the Vines in full leaf they can be fed to any extent by top-dressings and liquid applications. Where the houses must be used for plants they should be kept cool, not exceeding 40° to 45°, ventilating freely above that temperature.

Houses of Thin-skinned Grapes.—The soil and atmosphere have been saturated by the recent heavy and continued falls of rain, and these have caused Grapes, particularly Black Hamburgs, which have been ripe since August, to damp considerably in spite of free ventilation and a gentle warmth in the hot-water pipes. The Vines that ripened their crops in September are still in foliage, and will bear more moisture at the roots and in the atmosphere than those that have had the Grapes ripe since August; indeed, a moderate atmospheric moisture is necessary to prevent undue evaporation and the shrinking of the Grapes. A slight warmth in the hot-water pipes will be required almost constantly to maintain an equable temperature, but this must not be too high, or it will so dry the atmosphere as to cause the Grapes to shrivel prematurely. A temperature of 40° to 45° at night and 50° by day will be sufficient, ventilating freely and early in bright weather, so as to prevent moisture being condensed on the berries. Outside borders should be covered with tarpaulin or lights to throw off heavy rains, and if inside borders are given a covering of dry straw it will prevent its cracking and keep down moisture considerably, but the point is ventilation and a drip-proof roof.

Late Grapes not Finishing Well.—This usually arises from three primary causes—namely, starting the Vines too late, and not accelerating thorough growth during the spring and early summer months, so as to give the Grapes the full benefit of the summer sun to swell and ripen. Overcropping, too, not only prejudices the current crop, but militates considerably against the succeeding year's bearing of the Vines. A bad condition of the roots is, however, the most disastrous of all, for improper food is attended with many evils, and these hinder the perfection of the crop. If the defect is due to overcropping, relief should be sought by cutting a portion of the crop at the earliest convenience, and though nothing will be gained by pushing the fire now the temperature should be maintained at 60° to 65°, with 10° to 15° advance from sun heat, so as to secure the thorough ripening of the wood, admitting air freely when the weather is favourable, and leaving a little on constantly. Where the cause can be traced to imperfect drainage or bad borders no time should be lost after the wood becomes sufficiently ripened, or when the leaves give indication of falling, in getting out the old soil, rectifying the drainage, and relaying the roots in fresh compost.

THE KITCHEN GARDEN.

Kidney Beans.—These must have ample room and plenty of heat. If those in heated pits are kept staked upright and watered somewhat sparingly, especially if there is any old heating material underneath, several good gatherings should be available during November. If there are any bottom heat pipes let the Beans have the benefit of these; but bottom heat can be dispensed if the top heat never falls much below 60°. December supplies are best had from pot plants in a light forcing house, the first batch being already growing strongly. More new seed of either Osborne's Forcing, Sion House, or Ne Plus Ultra should now be sown, giving the preference to either 8-inch or 9-inch pots. Fill the pots to within 2 inches of the top of the rims with moderately good loamy soil, and sow about nine seeds in each, cover with another inch of soil, filling the pots up in the first instance being a better plan than allowing space for top-dressings later on. The seed germinates most quickly when the pots are set direct on hot-water pipes, taking care to shift the plants to lighter quarters before they become badly drawn. Six plants are enough to leave in each pot, these being duly supported with Birch spray or stakes and strips of matting. Not less than three dozen pots should constitute a batch, and the plants must be pushed along sharply to have them in full bearing at Christmas.

Seakale.—The Lily White form of Seakale is a decided improvement on the old variety in all respects other than hardiness. It is liable to be badly injured by severe frosts, large numbers of crowns being destroyed last winter. Being forewarned there ought to be no risks run. All the leaves can now be cleared away, and a few score or hundred crowns should be lifted and stored in moist soil ready for forcing, where they can be protected from severe frosts. The rest of the Lily White should then be heavily moulded over, or else covered with strawy litter. It is also advisable to take similar precautions in the case of the hardier form, as then roots can be lifted for forcing purposes whenever required. Forcing Seakale in the open ground with the aid of pots and manure is a very slow process, though it answers well if properly carried out. Not less than six pots should be covered at one time, and enough manure and leaves placed over them to get up a good heat, a close look-out being kept against injurious overheating. It is the old roots or clumps that are forced in this way, strong one-year-old or two-year-old roots being lifted and forced in either Mushroom houses or pits. They may have their thongs roughly shortened, the best of what are cut away being saved and stored in sand or soil for propagating purposes, and the trimmed roots be then packed together somewhat closely in boxes, pots, or beds of fairly rich soil. If either boxes or pots are used, and these set on or near to hot-water pipes in forcing houses, care must be taken to keep the soil uniformly moist, and also to exclude all light from the crowns. Seakale grows less slowly in Mushroom houses, but being in the dark the blanching is most perfect. In a forcing house or plant stove, the pots being kept either on or very close to the hot-water pipes, it ought to be possible to cut Seakale in about three weeks.

THE BEE-KEEPER.

APIARIAN NOTES.

PRESENTATION TO TWO OLD BEE-KEEPERS.

AT Larkhall, on the evening of the 29th ult., about thirty members of the Larkhall Bee Society and a deputation from the Stonehouse Society met to do honour to two of their oldest members—viz., Mr. James Wilson, now in his ninety-second year, and for upwards of fifty years clerk to that more than a century old Society; and Mr. Richard Finlayson, President for upwards of forty years. The Chairman (Mr. John Nicol), who presented the guests of the evening with silver-mounted walking sticks, in his remarks said that knowledge with truthfulness and reliability were not only personal honours, but of national worth, more valuable than gold. Both gentlemen made appropriate replies, although unaware till the time of presentation what was in store for them.

WINTERING BEES.

Forty years ago I discovered that there was no necessity for keeping twin hives, as a small nucleus of bees withstood our then severest winters. At that time I had commenced to make frame hives, and saw the advantage that would be gained by introducing frames to good hives, abandoning at the same time the custom of dividing a Stewarton hive into two or three, as the case allowed, and distributing the divisions amongst as many stocks. This early idea entirely obviates the necessity of having large cumbersome hives as recommended by some modern bee-keepers who seem to have a strong desire to claim that if the idea is not new "it has new features."

EGG LAYING.

If the maximum number of bees from two queens be allowed in one hive, it becomes at times unmanageable. It is the great desideratum in bee-keeping to have the largest number of bees possible at the proper time, with hives sufficiently large for the greatest laying of any queen, so that she will never be crowded out; yet, not so large as to make the hive unmanageable in transit, nor the bees to become pests for robbing and stinging in the apiary, or to be a positive loss to the bee-keeper in bad seasons. The weakest hives this year are the heaviest in honey.—A LANARKSHIRE BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

R. H. Vertegans & Co., The Old Nurseries, Chad Valley, Birmingham.—*Hardy, Herbaceous, Alpine, and other Rock Plants, &c.*
E. D. Shuttleworth & Co., Albert Nurseries, Peckham Rye, London, S.E.—*Fruit Trees, Roses, and Miscellaneous Plants.*



*All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Address (H. M.).—The *Eastern Morning News*; also the *Hull Daily News* and *Hull Daily Mail* are good mediums for your purpose.

Books (C. O.).—We do not know of such a work as you appear to require. There are several illustrations in Mr. Cannell's *Floral Guide*.

Tenant of Garden (A. J. T.).—We are obliged by your letter, but we had previously been made acquainted with the circumstances of the case by the gardener you name.

Mrs. Naish and Mrs. G. Rundle Chrysanthemums (R. F.).—If these varieties are not identical they are too much alike to be included in a stand of four varieties, as the judges might not admit their distinctness, and there is then a risk of disqualification.

Artificial Manure for Autumn-sown Onions (W. B.).—There is, perhaps, no better manure for Onions than soot, and it may be applied in February, or as soon afterwards as the weather permits, at the rate of a peck per rod, or 40 bushels per acre.

Chrysanthemum Show (S. K.).—We presume if the officials desired to give wide publicity to the Show they would have done so by advertisement, as is done by most of the leading Societies. The terms of your note bring it strictly within the category of advertisements.

Worms in Soil for Bowling Green (A. H. L.).—As the soil is good and the subsoil stiff clay it would be best to apply a dressing of quicklime at the rate of half a bushel per rod, and point it in before laying the turf. If the lime is fresh burned, placed in small convenient heaps, covered with a little soil, and spread evenly over the ground, it would destroy the worms and greatly improve the soil if mixed with it. Avoid salt, as it tends to make the soil moist, and is not useful in heavy land.

Tomato House Arrangements (J. A.).—If you decide to have Tomato plants on the back wall instead of Peach trees, then it would be cheapest and best to have a three-quarter span-roof structure. In that case the arrangement of the Tomato plants in front must be crossway of the house, as advised in reply to your inquiries last week, so as to admit plenty of light to the plants against the wall. A house for growing Tomatoes in summer is best with the ends of the span facing north and south, but we have had good results in a span-roofed structure running east and west both early and late, as the plants on the south side do better and come into bearing sooner than those on the north side.

Mushroom Bed Unsatisfactory (Kelsey).—The "fungus gathered from a Mushroom bed" has not been forwarded, at least we find no evidence of fungus amongst the contents of the small box likely to injure Mushroom spawn, and of that there is no trace. Instead of the fungus gathered from the Mushroom bed, we find some swollen fusiform roots, probably of a small creeping herbaceous plant or weed, which have been introduced to the Mushroom bed in the maiden loam, and from which they have been taken, for they are not outgrowths of a fungus. The cause and remedy must be sought for elsewhere, and it probably proceeds from some error in the materials, their preparation, spawning or management of the beds, or it may arise from the use of old and indifferent spawn.

Questions not Answered (Lawrence & Son).—We have very great pleasure in giving the best information at our command in replies to correspondents, and we are gratified by knowing that such information has been helpful to others than those who have been the means of eliciting it. It seems you have found the advice which we have given to others has been such as you required. We are pleased to hear this, but sorry to learn the two letters you have sent direct have not received attention. The reason of this is that from some unexplainable cause the letters did not reach the hands of the Editor. Are you sure they were properly addressed? Numbers are not that after some delay find their way to this office, and no doubt several go astray. We are obliged by your good wishes, and this reply proves our willingness to attend to your letters.

Artificial Manure for Winter Lettuces (W. B.).—These do not require to be greatly stimulated, as it only tends to make them more susceptible of injury from frost, and they are usually grown on land in good heart or manured with stable refuse of a gradual decomposing nature, which, from the humus, aids the plants to maintain a steady progressive growth and form fine heads of succulent leaves. Guano would be one of the best "artificial," and it may be applied early in spring, when the weather becomes favourable and the plants are beginning to grow, at the rate of 2 lbs. per rod or 3 cwt. per acre; when they are fairly moving you may supplement the guano with nitrate of soda at the rate of 1 lb. per rod, or 1½ cwt. per acre. Both the guano and nitrate of soda must be kept off the plants, as if it gets in the hearts they may be seriously damaged.

Expelling Worms from a Lawn (C. B.).—The entire eradication of worms on lawns is impossible without rendering the latter worthless, and it is best to fight them occasionally. We prefer mixtures that act as manure as well as expel the worms. If the soil is light apply a dressing of salt and soot: mix 6 bushels of salt and 12 bushels of soot well together, and scatter evenly after sweeping the lawn with a birch broom, so as to disperse the wormcasts, choosing a moist day for the operation. This banishes the worms and has a beneficial effect on the grass. The quantity named is for one acre, but it may be used at the rate of half peck per rod. If the soil is heavy it is better to use lime and soot, say air-slaked lime 30 bushels, soot 10 bushels, mix well, and apply evenly to an acre of lawn, or 1 peck per rod. This mixture kills moss and is useful against grubs as well as worms. The present is a good time to apply the mixture, or in February, or as soon after as the weather permits.

Burying Potted Bulbs (F. J.).—You ask "if it is absolutely necessary that potted bulbs should be plunged for five or six weeks, and if so if leaves will do as well as ashes for the purpose." Our answer to the first question is that it depends on the skill of the cultivator, and especially on the judgment he is able to exercise in watering. We have

grown Hyacinths and other bulbous plants to our satisfaction without plunging the pots, but have also found that burying them till roots form and crowns start the more easy and reliable method. As a covering medium we prefer cocoa-nut fibre refuse, which is clean, cheap, and useful in all gardens. We have also found sweet ashes satisfactory, and ashes not sweet the reverse. Comparative fresh leaves containing slugs did not answer because the molluscs nibbled the tender growth from the bulbs, but partially decayed leaves free from slugs were quite satisfactory. Damp plunging and covering material keeps the soil uniformly moist without watering, and therefore in the best condition for inciting free root action, and consequently bold healthy crowns.

Bedding Calceolarias (*J. W., No. 2*).—If the growths of your yellow Calceolarias are quite uninjured by frost we should choose the shortest jointed for cuttings and insert them at once. They require no heat. They will root slowly but surely in sandy soil under a handlight or in a close cold frame, covered to exclude severe frost. Strong sappy young shoots are not suitable, but only those which are sturdy and firm. They may be about 3 inches long, the lower pair of leaves removed, and some of those retained half shortened, thus reducing the evaporating surface, though if they can be kept fresh without shortening the cuttings will root just as well, if not sooner. Spring-struck cuttings do not, as a rule, make robust plants. Old plants taken up, potted and well watered may be wintered in a protected frame for affording cuttings if needed, or giving a bright display of flowers early in the year.

Poinsettia Leaves Falling (*A. S. T.*).—You should have described the treatment to which the plants that have unfortunately "lost all their leaves" were subjected. Defoliation is caused by neglect or errors in watering, or a too low temperature. When the roots cease moving through cold, or any other cause, the leaves commence falling, and we have very little doubt that most of the roots of your plants are dead. We have known them destroyed by too strong applications of manure. It should be remembered that Poinsettias are tropical plants, and must have stove heat in winter, though most of the leaves of well-grown plants are retained in warm conservatories, not cold greenhouses. You are too reticent in the statement of your case to enable us to indicate the precise reason of the plants being in their present condition, though we may have put you on the track for tracing the source of the evil.

The Heaviest Bunch of Grapes (*J. W. Penshore*).—The heaviest bunch of Grapes that we have seen weighed was an unthinned cluster of Calabrian Raisin at the Royal Caledonian Society's Show at Edinburgh in 1875. It was grown by Mr. J. Currer, Eskbank, and turned the scale at 26 lbs. 4 ozs. That, so far as we know, is the greatest authenticated bunch on record. The late Mr. James Dickson of Arkleton had a much larger bunch at the same Show, but it only weighed 25 lbs. 15 ozs. The berries had been thinned, and were very fine. This bunch was 2 feet 3 inches in width across the shoulders, and the same in length, and the circumference, following the contour of the shoulder to the base of each, was 8 feet. Had the whole of the berries been left on, the cluster would have been decidedly heavier. The largest bunch of black Grapes known to us was a splendid example of Gros Guillaume (often misnamed Barba-rossa) grown by the late Mr. Roberts at Charleville, the weight being 23 lbs. 5 ozs. The three bunches mentioned are illustrated in Mr. Barron's work on the Vine. You should procure it.

Soil for Aucubas (*C. B.*).—In the environs of Bradford, Yorkshire, we found Aucubas did not succeed in heavy soil, but when that was made open by an admixture of ashes and road scrapings they did well. They, however, do best in naturally friable loam well drained. If grown in pots or in a specially prepared soil, the compost should consist of turfy, rather sandy, yellow loam, with plenty of drainage to carry off superfluous water. It would be a capital plan to sponge the full grown leaves with soapy water, say 2 ozs. of softsoap to a gallon of water, which, by freeing them of the sooty deposits, would render the foliage much more attractive and the plants more healthy, but it could only be practised on the score of expense on a small scale. We have found it an excellent practice to syringe evergreen town shrubs with water in the evenings of hot days, as it keeps the foliage free from dust and sooty deposits. It also enables the leaves to attain greater development, but it is during foggy weather in autumn and winter that the soot accumulates fastest and thickest, when syringing would do more harm than good. There is no objection to the sponging. It is solely a question of expense, and as we have seen it carried out, we can vouch for its excellency to the plants and the brightness it imparts to them. The best way is to syringe the plants with a tepid (90°) soapy solution (2 ozs. softsoap to a gallon of water), and let this act on the sooty deposits for a short time, but whilst still damp sponge the leaves, and then the work is done in about half the time and very much better.

Names of Fruits.—*Notice.*—Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot

be preserved. (*T. Stephens*).—1, Golden Spire; 2, Lane's Prince Albert; 3, Golden Knob; 4, Comte de Flandres. (*R. McKellar*).—The Pear is Thompson's, and the Apple Carlisle Codlin. (*Thornhays*).—2, Striped Beefing; 4, Tower of Glamis; 5, Northern Greening; 6, Napoleon. (*T. H.*).—1, Catshead; 2, Striped Beefing; 3, Scarlet Pearmain. (*J. E. K.*).—B, General Todleben; C, not known, not specially good; D, Northern Greening; F, Royal Russet. The Pear is Uvedale's St. Germain. (*Herbert*).—1, Beurré Superfin; 3, Passe Colmar; 4, Josephine de Malines; 5, Winter Nelis; 6, Perhaps Easter Beurré. (*G. A.*).—1, Round Winter Nonesuch; 2, King of the Pippins; 3, Hawthornden; 4, Catshead; 5, Greenup's Pippin; 6, Yorkshire Greening. Some of these Apples are not characteristic specimens, and the names are, therefore, only approximate. (*F. J. Gray*).—1, Fondante d'Automne; 2, Swan's Egg; 3, Beurré Lefèvre; 4, Beurré Diel; 5, Wyken Pippin; 6, Rosemary Russet.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*J. J.*).—*Berberis vulgaris*.

COVENT GARDEN MARKET.—NOVEMBER 9TH.

Market quiet, with supplies more than equal to demand.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, half sieve	1	0	6	0	Oranges, per 100	4	0	9	0
Cobbs, Kent, per 100 lbs. ..	0	0	100	0	Peaches, per dozen	0	0	0	0
Grapes, per lb.	0	6	2	0	St. Michael Pines, each ..	3	0	6	0
Lemons, case	15	0	35	0					

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beans, Kidney, per lb.	0	6	0	0	Mustard and Cress, punnet	0	2	0	0
Beet, Red, dozen	1	0	0	0	Onions, bunch	0	3	0	5
Carrots, bunch	0	4	0	0	Parsley, dozen bunches ..	2	0	3	0
Cauliflowers, dozen	2	0	3	0	Parsnips, dozen	1	0	0	0
Celery, bundle	1	0	1	3	Potatoes, per cwt.	2	0	5	0
Coleworts, dozen bunches ..	2	0	4	0	Salsafy, bundle	1	0	1	6
Cucumbers, dozen	1	6	3	6	Scorzonera, bundle	1	6	0	0
Endive, dozen	1	3	1	6	Seakale, per basket	3	0	0	0
Herbs, bunch	0	3	0	0	Shallots, per lb.	0	3	0	0
Leeks, bunch	0	2	0	0	Spinach, bushel	3	0	3	6
Lettuce, dozen	0	9	1	0	Tomatoes, per lb.	0	2	0	6
Mushrooms, punnet	0	9	1	0	Turnips, bunch	0	3	0	4

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.

Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	4	0	6	0	Mimosa, French, per bunch	1	0	1	6
Bouvardias, bunch	0	6	0	9	Orchids, per dozen blooms	3	0	12	0
Carnations, 12 blooms ..	1	0	3	0	Pelargoniums, 12 bunches	8	0	12	0
Chrysanthemums, dozen ..	1	6	4	0	Pelargoniums, scarlet, doz.	6	0	9	0
Chrysanthemums, dozen ..	6	0	12	0	bunches	0	6	0	9
Eucharis, dozen	3	0	6	0	Primula (double) 12 sprays	3	0	6	0
Fuchsias, per bunch	0	6	1	0	Pyrethrum doz. bunches ..	0	9	2	0
Gardenias, per dozen	2	0	4	0	Roses (indoor), dozen	1	0	2	0
Geraniums, scarlet, 12 bchs.	6	0	8	0	„ Red, per doz. blooms ..	1	0	2	0
Lilac, white, French, per ..	4	6	6	0	„ Tea, white, dozen	2	0	4	0
Lilium longiflorum 12 ..	9	0	12	0	„ Yellow, dozen	0	4	0	9
Lilium (var.) doz. blooms	3	0	5	0	Tuberose, 12 blooms	3	6	5	0
Maidenhair Fern, doz. bchs.	4	0	6	0	Violets, Parme, French, per	2	6	3	0
Marguerites, 12 bunches ..	2	0	4	0	bunch	2	0	3	0
Mignonette, 12 bunches ..	3	0	6	0	Violets, Czar, French, per	2	0	3	0

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (golden) dozen	6	0	12	0	Ficus elastica, each	1	6	10	6
Begonia, per dozen	6	0	12	0	Foliage plants, var., each ..	2	0	10	0
Chrysanthemums, per doz.	6	0	9	0	Heliotrope, per dozen	6	0	9	0
„ large plants, each ..	1	0	3	0	Lycopodium, per dozen ..	3	0	4	0
Cupressus, large plants, each	2	0	5	0	Marguerite Daisy, dozen ..	6	0	12	0
Dracana terminalis, dozen ..	18	0	42	0	Mignonette, per dozen	6	0	12	0
„ viridis, dozen	9	0	24	0	Myrtles, dozen	6	0	9	0
Euonymus, var., dozen	6	0	18	0	Palms, in var., each	1	0	15	0
Evergreens, in var., dozen	6	0	24	0	„ (specimens)	21	0	63	0
Ferns, in variety, dozen ..	4	0	18	0	Pelargoniums, scarlet, doz.	6	0	9	0
„ (small) per hundred ..	6	0	8	0	Solanums, per dozen	9	0	12	0



LANDLORD AND TENANT.

WHAT are the duties of landlords and tenant farmers, and how they are generally understood and applied, is a question of

such importance that it is much discussed, opinions being freely forthcoming which are frequently the reverse of flattering to either class. That both have special and novel duties arising out of the changing conditions of land tenure, of the production and sale of farm produce, and, above all things, of foreign competition, there can be no doubt, and the sooner the nature of such duties and the best means of discharging them are fully understood, the sooner shall we see prosperity restored to agriculture. To continue striving to farm upon old lines in the face of the altered condition of things is utter folly; where it is done the struggle for bare subsistence, after "making the rent," is so severe that it is of itself enough to make those engaged in it consider if other and better means are not available. It is surely not for want of advice or discussion that farmers generally cannot do better; the difficulty seems to be to decide upon a definite course wherein improvement is clearly possible, and then to act with decision. With straitened means and falling prices farmers dare not venture upon speculative efforts to improve their condition. They must turn to something where fair profits have been proved to be possible, and so in changing reduce the risk of loss to a minimum.

We have repeatedly urged upon them the importance of co-operation in such a manner that it should not affect any individual at the expense of others. When a body of men combine together character always tells, the best men invariably come to the front; therefore any co-operative scheme must be arranged upon such a footing that there shall be no hard measure dealt out to the inferior men. In dairy co-operation, to which we have several times called attention, everything is perfectly fair, and the entire scheme is within ordinary comprehension. To begin with, the shares of a co-operative company are £1 per cow, not paid all at once, but in response to calls of two or three shillings, as money is required for preliminary expenses, such as buildings, machinery, and general plant. The milk of each shareholder is tested periodically for quality, and is paid for accordingly, so that individually the shareholders are treated with perfect fairness, both for produce supplied and also in sharing the profits.

In an able paper read recently before the Chester Farmers' Club, Mr. C. W. Dutton placed especial stress upon the necessity for improved dairy accommodation. He said—"I am afraid bad dairies have more to do with bad flavoured cheese than anything else, the loss upon which to farmers is enormous, for it is principally the indifferent flavoured cheese that feels the foreign competition. It is of no use the dairy institutes teaching how to make finest cheese with every convenience if the scholar is to go home and try to make the same quality without the same appliances, for he will utterly fail." Upon the face of things it would appear futile to ask landlords for improved dairies, but it must not be forgotten that the rent of dairy farms has not been reduced in anything like the same ratio as that of corn farms, and tenants have fair reason to ask and expect to have such help from landlords. It is in districts where aid of this sort is not forthcoming that co-operative factories both for cheese and butter would prove such a boon, and their establishment in considerable numbers is highly desirable. Of course there is a limit to such extension of dairy farming, and wherever mixed farming is possible it should be fully carried out. Our mistake in the past has been in extremes; let us apply the lesson now, and wherever it is possible so bring our land under different crops, or a system of management which competition in any particular thing cannot affect seriously. Farming is now a stern struggle with adversity, and it is only the best practice that can answer. Men are wont to talk of luck and chance; depend upon it none of these things have anything to do with ordinary success. No sensible man is misled by a single fortunate transaction in business; that is altogether apart from the general question.

Again, we say to tenant farmers, Keep well within the scope of your means; avoid extremes; keep a strict guard upon expenditure; do what you undertake thoroughly both in land cultivation and live stock management, and above all things let your eye and hand be felt everywhere upon the farm. The man who sets himself earnestly to struggle with hard times, who will not give in, who sees nor feels no shame, no degradation in using every faculty both of mind and body to support himself and his family, will be on the alert to seize every fair means to attain his end, will have no silly prejudice against change and improvement, and he will command the respect and admiration of every good man and true.

WORK ON THE HOME FARM.

Among other work of improvement the re-arrangement of holdings and the division of very large meadows is now being done. Such enclosures, if of any size, ranging from six to a dozen acres, are far more useful than very large meadows. Live stock often require a decided change; grazing, too, is altogether better managed when enclosures are of moderate size. In this matter, while paying due heed to tenants' requests, general estate improvement is kept fully in view, mere fanciful changes being quietly ignored. We have several farms on both sides of a wide valley; two of them run from the top of the slopes right down to the stream which runs through the valley. These are the most satisfactory farms, and we are gradually bringing others into the same form. The main difficulty in this matter is a central position for each house and homestead, and suitable cattle shelter upon outlying land. Tenants have been allowed to hire so many detached meadows that at length complaints have been made of the difficulty of overlooking them, and a change is being effected in the direction of compactness of holdings. This is not so difficult as might appear, for unfortunately there is not a Michaelmas without some change or warning of change among tenants, and the landlord who really cares for his tenants and feels an interest in his property is frequently in earnest consultation with his agent as to the best means of meeting the changed conditions of the ownership and management of landed property.

Water is always an important factor in meadow divisions; this should be remembered in draining land, all superfluous water being stored in ponds or pools at the most convenient points, and overflow conducted to another meadow if possible. A long wide gentle slope into such pools for cattle to drink answers best, and it should be hardened with gravel, so as to prevent any accumulation of mud, or difficulty of approach in winter. This is just one of those trifling matters of detail worthy of attention at first, so that a really sound permanent job may be made of it, and subsequent trouble avoided. It is one of the things which go to render a farm desirable in the eyes of a prospective tenant, who is very keen to note wants and failings in his inspection of vacant farms, and this is precisely one of the things he must have.

OUR LETTER BOX.

Kerry Cattle (Hoping).—We know of no pamphlet devoted to these useful little animals. If you have access to a public library you may find illustrations and particulars of them in Stephens' "Book of the Farm," or other modern works in which farm stock are treated.

METEOROLOGICAL OBSERVATIONS.

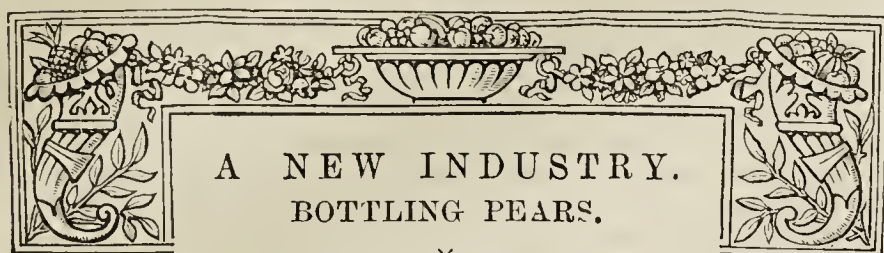
CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.	
1892. October and November.		Barometer at 32°, and Sea Level.	Hygrometer.		Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature			
			Dry.	Wet.		Max.	Min.	In Sun.	On Grass.		
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday ..	30	29.730	45.9	44.8	N.E.	48.0	54.9	41.5	75.2	34.3	1.111
Monday ..	31	29.692	45.0	45.0	N.	47.2	46.3	44.9	50.9	42.5	0.020
Tuesday ..	1	29.845	44.3	42.3	N.	49.9	49.3	42.3	57.0	41.9	—
Wednesday	2	29.868	36.0	36.0	N.E.	45.2	52.1	30.8	58.0	25.6	0.157
Thursday ..	3	29.632	50.7	49.8	W.	45.3	57.1	35.4	86.8	34.1	—
Friday ..	4	29.903	53.3	52.1	S.E.	45.8	58.8	44.4	78.9	36.4	0.157
Saturday ..	5	29.915	54.2	52.9	S.E.	47.3	57.5	51.0	60.8	45.6	0.268
		29.792	47.1	46.1		46.5	53.7	41.5	66.8	37.2	1.713

REMARKS.

- 30th.—Sunny throughout; solar halo in morning; steady heavy rain from 8.30 P.M. to 9.30 A.M. on 31st.
 31st.—Continuous rain till 9 A.M.; overcast and damp all day.
 1st.—Fine, but sunless day; bright moonlight night.
 2nd.—Dense fog till about 11 A.M. clearing slowly, and occasional sun from 1 P.M. to 3 P.M., then spots of rain and wet from 6.30 P.M. to 9 P.M.
 3rd.—Bright sunshine almost throughout.
 4th.—Overcast early, a little sunshine between 10 A.M. and noon; then cloudy again and wet after 3.30 P.M.
 5th.—Overcast morning, sunny afternoon; very wet from 7.30 P.M. to 11 P.M.
 A warmer and very wet week.—G. J. SYMONS.



WHETHER or not I am justified in using the above heading will perhaps be considered a moot point. Any way, my ideas on the subject will be perfectly original, and if rather late in being published, have yet been "on my mind" for many weeks past. What I venture to term a new industry is simply bottling, not canning Pears. At several public dinners it has fallen to my lot to attend during the past few months I have noticed that stewed Pears figured largely among the "sweets," and, what was equally apparent, they disappeared with remarkable celerity. They were fully appreciated by a great majority of the guests, and in all probability if double the quantity had been placed on the table there would have been very few left. As might reasonably be expected of one who is always on the alert for something fresh that is worth knowing, I took the first opportunity of congratulating the host upon the excellence of the stewed Pears, and was told "under the rose" that they were simply canned Pears. Those Pears actually came all the way from California, and were brought into a neighbourhood where large quantities of really good Pears were either spoilt or sold at very low prices during the season of 1891. The same thing has occurred, or is occurring, in various other fruit-growing districts, or at any rate where fruit could be well and extensively grown, and yet to all appearance our farmers and fruit growers are quite helpless in the matter. Nor do I think many of either class have sufficient enterprise to compete against their more go-ahead competitors over the sea. Yet something must be done. So much tree planting has been carried out in various parts of the country that the time is not far distant when great gluts of fruit will occur, and it is anticipation of this that I would urge the necessity for taking active steps in experimenting and preparing for future undertakings.

That there is a great and increasing demand for canned Pears there is no disputing, and it is equally certain that preserving in that way is a very profitable industry. The best brands of Californian Pears are in square tins closely soldered down, and holding about 3 lbs. of fruit. These the Italian warehousemen and grocers have delivered to them in fairly large quantities at the rate of 15s. per dozen. The second quality, and which are only very slightly inferior to the best, are in 2½ lbs. tins, and supplied wholesale at about 11s. per dozen. The latter are retailed at 1s. 3d. each, more or less. On opening one lately I found it held about six Pears duly pared and cored, so that the consumer pays somewhat dearly for the luxury of having the fruit ready stewed. The syrup was rather thin and sweet, and of course added considerably to the weight. Evidently the fruit is sound, properly stewed and well secured in the tins. Only too evident also is the fact that the Americans have the advantage of us in climatal conditions, bad years being the exception to the rule, while the great shipping companies can afford, or do afford, to bring all such commodities into this country at very low rates. What we have, therefore, to do is to beat them with their own weapons, or rather improve on what they do, or are ever likely to do. In their case the Pears must be canned, and among our countrymen there are many who cannot be knowingly persuaded to eat anything that has been kept in cans or tins of any kind. With bottled fruit there is no risk of lead or any other poisoning, and it is in bottles that stewed Pears ought to be placed and sold. Bottles will certainly

be less handy for packing, storing, transit, and such like, but their other advantages will tell heavily in their favour eventually. Whether they are cheaper than tins or not I am unable to say, but they are decidedly the best for use among fruit growers on a small scale, soldering down the lids of tins being an insuperable difficulty in many cases. Large-necked square bottles can be bought cheaply enough at Bristol and elsewhere, and it is those of a size capable of holding from 2 lbs. to 3 lbs. of fruit and syrup that should be used.

Because there are Pears grown specially for stewing purposes—being fit for nothing else, in fact—it does not follow, as many seem to imagine, that ordinary dessert varieties are not equally well adapted for the purpose. If enormous crops of Williams' Bon Chrétien, Pitmaston Duchess, Beurré Capiaumont, Beurré Diel, Clapp's Favourite, Durondeau, Brockworth Park, and numerous other varieties that could be mentioned, cannot be sold at remunerative rates either direct from the trees or after storing, there is nothing to prevent their being stewed and bottled. Nor need the fruit to be fully ripe; but on the contrary matured, but not ripe, Pears are to be preferred for the purpose. Lightening the crops might be commenced in time for the operation to be most beneficial to the trees, and consequently the fruit left on them would improve in size, while the thinnings could be bottled. Supposing it was intended to bottle the bulk of the fruit grown the work in many cases might commence with the thinnings, and continue as long as the fruit remained sound.

Not being actually engaged in the industry of preserving fruit for the markets I am not prepared to fully describe the best process of bottling Pears. Nor is there much likelihood of those experienced in the matter coming forward to give novices the benefit of their experience. This is not greatly to be wondered at; but what is to prevent anyone perfecting their own system, or, as before hinted, experimenting on a small scale now with a view to being prepared for future emergencies? My plan already put into operation is to select Pears of near one size as possible for each boiling, these being pared, halved or quartered if very large, and the core cut out. They are placed in a preserving pan, adding water at the rate of 1 quart and loaf sugar at the rate of 1½ lb. to every 16 lbs. of fruit, a few cloves and some allspice being also thrown in. They must not boil, but be kept on the simmer till the Pears become quite tender, this taking from two to four hours according to the variety and the ripening stage at which it may have arrived. The Pears are then allowed to cool somewhat and then very neatly packed in the bottles, the syrup being brought to the boil again and poured over the fruit so as to well cover it. Corking follows closely upon this, the corks being further made air-tight by means of oiled papers. It remains to be seen how long Pears thus treated will keep, and I have no doubt some of the readers of the *Journal of Horticulture* could, if they would, enlighten us more fully on the subject.

Colouring matter would appear with many to be absolutely necessary in the case of stewed Pears; but the Americans are evidently not of that opinion, and there are persons in this country who also object to its use. A few drops of cochineal will give the desired tinge of colour, and, I believe, without prejudice to the fruit; but there is no sense in using it, all the same. There is one variety that colours naturally, this being the good old Vicar of Winkfield. Planters seem to have quite overlooked the value of the Vicar. It forms a fairly good standard and a handsome pyramid, while against a cool wall the trees attain a great size. Very rarely are there failures to be recorded, and in addition to being one of the best stewing Pears in cultivation, it is often very acceptable for dessert purposes early in December. That, and also Beurré Diel, ought to be largely planted by those who intend to try what can be done in the way of bottling Pears for the market. It is my belief it is the last named that is largely sent over from California in tins.—W. IGGULDEN.

THE THEORY AND PRACTICE OF SPRAYING.

INSECTS and fungi are the principal agents which reduce the value of crops, but since the grower has, at his command, means of destroying these pests, he has, as a rule, no one but himself to blame if he is much troubled by them. By spraying plants with suitable materials, a good crop can almost be guaranteed, provided that the conditions for the healthy development of the plants are present. Spraying in itself will not produce good crops, but it will prevent injurious agencies from affecting the crop which would naturally be produced. It is an operation which is designed to protect plants, not to make them grow more vigorously or to bear more profusely, although these results are, nevertheless, indirectly obtained. An injured plant will not do so well as a sound one; a Vine covered with mildew cannot be so vigorous as one not so affected. Countless instances could be brought forward to show how plants have lost all their foliage through the action of insects. But whether the foliage is ruined by insects or by fungi, the effect upon the plant is the same, checked growth and a loss of vigour. Thousands of pounds are annually lost on account of the injury done by fungi and insects. Almost every cultivated plant has its enemies, but almost every one of these can be overcome by persevering and intelligent application of remedies within easy reach.

The substances used in spraying may, in general, be divided into two classes, insecticides and fungicides, the former being used against insects, the latter against fungi. Insecticides may further be divided into two classes, according to their mode of action; those which act after entering the body of the insect, with its food, and those which kill by coming into contact with the external surfaces of the insect's body.

This division of insecticides is an important one. Take for instance the Potato beetle. This insect is a voracious feeder, and by placing some poisonous substance upon the foliage which is eaten by it, the poison enters the body with the food, and the beetle soon stops work. Currant worms, caterpillars, curculios, in fact all insects which feed upon the external tissues of plants may, with but one or two exceptions, be destroyed in this way. It is the easiest and cheapest method, and should be employed as far as possible. The insecticides which are commonly used are Paris green, London purple, white arsenic, and hellebore. Paris green is the safest, but the most expensive of the arsenites. Its arsenic is mostly in an insoluble form, hence it does not injure foliage so much as the others. It is generally used upon all plants at the rate of 1 lb. in 200 or 300 gallons of water. Peaches are very easily injured by arsenites, and Paris green is the only safe one to apply, but even this should never be used stronger than 1 lb. to 300 gallons water, and still weaker solutions give good results. The spray should be very fine, and the foliage should be covered as evenly as possible. London purple contains a large amount of soluble arsenic, and for this reason should never be applied to Peach trees. I have also seen Plums seriously injured by its use. It is generally applied at the same rate as Paris green, but the foliage is more apt to be scorched. The soluble arsenic may be rendered insoluble by adding a gallon of the milk of lime to every 15 gallons of the London purple solution. When thus prepared London purple may be used with perhaps as much safety as Paris green.

White arsenic is a dangerous substance, as it is so readily mistaken for other white powders. When used alone it is caustic to foliage, but the following treatment, recommended by the North Carolina Experiment Station, is said to make its use perfectly safe. Boil 1 lb. of commercial white arsenic and 2 lbs. of unslaked lime in 2 to 5 gallons of water for about half an hour. Dilute in 100 or 200 gallons of water before using. Hellebore is a vegetable product, and should be used upon plants which require spraying before the fruit comes to maturity.

Insecticides which kill by contact are used against insects that suck the juices of plants. It is of no avail to try to destroy these pests by placing upon the surface of attacked plants those poisons which are effective only when eaten, as the beak of the insect passes through the external tissues of the plant before any food is taken. These insecticides, as a rule, are more difficult to prepare and apply than are those of the first class, but their use is often a necessity. Sucking insects generally have soft and tender bodies, readily penetrated by poisonous substances, such as kerosene and others which are fatal to the insect. In spraying these insecticides upon the plants, the aim should be to strike the insect, and not to cover the foliage with a coat of poison. If the insect escapes untouched, it will continue in its work as before. It is often hard to reach the enemy on account of the foliage, bark, or other protective substances; but the excellent insecticides which we now have at our command in most cases insure the destruction of the pest, especially if a good nozzle and pump are

used in making the application. However, before any insecticides are prepared it is necessary to determine in what manner the insects whose destruction is desired obtain their food. I once saw a man applying London purple to his Pear trees to destroy a sucking insect. Time, money, patience, and faith are all thrown away in such an operation.

Kerosene emulsion is a good insecticide of this class. There are several formulas according to which it may be prepared. The following will give satisfaction:—Softsoap, 1 quart; kerosene, 1 pint; hot water, 2 quarts. Churn the materials by pumping back into the pail until well mixed. This should be diluted two or three times before being used.—E. G. LODEMAN (in "American Agriculturist").

IRIS IBERICA AND I. SUSIANA.

THESE—two of the most singular and beautiful species of a large and most interesting genus of hardy plants—are not very frequently seen in gardens. This may arise from the prevalent but erroneous impression that they are amongst the most difficult of plants to flower, and require special treatment. As a matter of fact, they are easily cultivated, perfectly hardy, and not at all exacting in their requirements. *I. iberica* is a handsome plant, though its leaves are few. They are produced in a basal tuft, falcate, linear, and glaucous, and the stem does not exceed 6 inches in height, yet the flower is very large, often being 6 or 7 inches in length and 4 inches in breadth. The species flowers in spring or early summer. There are several forms, some being dwarfer than others, and these, as a rule, produce the most striking and the handsomest flowers. The blooms are solitary, the limb about 3 inches deep, with the segments narrowing to a short claw, $1\frac{1}{2}$ to 2 inches broad; the drooping petals or falls reflex from near the base, and are veined with dark purple or purplish-brown on a yellowish ground, with a velvety attractive dark purple blotch in the centre; while the upright petals or standards are satiny white or pale lilac, veinless, yet pencilled and spotted with violet. There is a variety with white and another with yellowish falls, both veined with purple-black lines, and spotted and blotched with bay, the standards being veined and thickly spotted. In procuring rhizomes of this species it is almost certain that there will be several varieties and decided improvements on the common form, for this plant exhibits no departure from the well-known fact that cultivation improves the types.

I. Susiana (the Mourning Iris) is described by Linnæus as "the single-flowered bearded Iris, with the stalks longer than the leaves." The limb is 3 inches deep; the falls and standards are similar in shape and size, with dense fine lines and spots of brownish-black on a grey ground tinged with lilac; the falls reflex about half way up; the claw is cushioned with brownish-black hairs, whilst the standards are erect and much spotted. The flower is one of the largest of the Iris family, and when closely examined one of the most elegant, being composed, like those of the other Irises, of six petals, amongst which appear the three leafy heads of the style, so much resembling three others that the flower has been usually understood to be nine-petalled. It has no scent, but its beautiful colouring is enough to suggest a resemblance at a distance to the feathers of some Indian bird. The flowers are produced in late April or early May. The stalk is from a foot to 18 inches high, round, thick, jointed, and pale green; the leaves rise six or eight together, and surround one another at the base. The root is tuberous, thick, irregular, and succulent. It is a native of the East (Asia Minor and Persia), whence it was brought into Europe by the Dutch in the year 1573.

These charming plants are best grown in a sunny situation sheltered from north, west, and east winds, but open to the south. The site should, in fact, be light and warm, and the soil thoroughly drained. The best bed I have seen was formed in a sunny nook, having low shrubs at a little distance on the east, north, and west sides. The soil was taken out 2 feet deep, as it was a mere gravelly brash, with 6 feet of ferruginous gravel below, resting on chalk, and the water never rose within that distance of the surface. A foot in depth of black earth was taken from the rubbish heap, which contained every kind of stuff from the potting bench, and was of a rather strongish nature, yet friable from the large percentage of crocks, and was put on the gravel, then another good foot was made up of soil consisting of dark rich turfy loam and leaf soil in equal parts taken from a wood, and a coating of sharp sand 4 inches thick was mixed with the surface soil to a depth of about 10 inches. The centre of the bed was occupied with the Susian Iris about 18 inches apart, and it was margined about 9 inches from the edge with the Iberian Iris.

The roots of the Iris *Susiana* were planted about 4 inches deep, being placed on about 2 inches depth of coarse sand and about that

thickness spread over them. The rhizomes of *Iris iberica* were planted similarly, but only just below the surface, say a couple of inches—indeed the sand was visible. The sand kept the rhizomes comparatively dry in winter and prevented their decay. They were not disturbed, but allowed to grow, and instead of dwindling away, as is often the case when they are “stuck in” mixed borders, they increased in beauty annually, and were the most admired of the many choice plants the garden contained.

I. iberica can be easily multiplied by division of the rhizome in autumn, and *I. Susiana* may be increased by parting the roots at that time. It is said that plants raised from seed excel in flower those increased from the roots, and afford a more pleasing diversity in the disposition, form, and size of the spots. Of that, however, I have no experience. *I. Susiana* does not succeed in heavy soils and cold districts as a border plant.—G. A.

JUDGING HERBACEOUS FLOWERS.

REPLYING to “E. M.,” page 235, I think the small growers of hardy flowers will be able to hold their own in competition if only one variety of any flower is allowed. Are not these small growers more likely to have but one or two kinds of any flower than a greater number, as most persons like variety in their gardens?

He must be a very small grower who could not compete in a class for twelve bunches, distinct. Should anyone decide to increase his stock of hardy plants it would be good for the trade and in many cases for the appearance of the purchaser's garden. I agree with “E. M.” that there is a wide distinction between the *Liliums* he names and, I may add, in their time of blooming.

My reason for allowing only one variety of any flower in a stand is that I consider it would be easier to judge them on their merits. I should like to have opinions on the following: Let two stands of twelve bunches be staged, one containing twelve distinct varieties, all being good specimens and well arranged, the other stand to have eight bunches distinct varieties, the remaining four may be two kinds of *Phlox* and two *Liliums* or *Delphiniums*, &c., &c., each bunch being good of its kind and well staged; to which stand should the first prize be awarded?—DEVON.

FUNCTIONS (AND WEIGHT) OF VINE LEAVES.

I CAN assure the correspondent who has thought fit to shelter his identity under the *nom de plume* of an ancient and honoured town that he has by no means succeeded in doing so. I venture to assert that both Mr. Iggulden and myself will be able to state our views without resorting to gross personal attacks; and I make bold to express the belief that readers of the *Journal of Horticulture* generally will require the adverse opinion of a far greater authority on Vine culture than this nameless individual. The test of experience is displayed in the results achieved. Mr. Iggulden would, I think, be the last to accuse me of a want of practical knowledge in any branch of fruit culture. It so happens that for a period of five years, during which time I was foreman to that prominent fruit grower, Mr. H. W. Ward, Mr. Iggulden and myself staged side by side in competition many collections of fruit and Grapes, and we have known what it is to stand together by the show tent awaiting with intense interest the verdict of the judges, who seldom had a very easy task to determine the positions of each collection. Let me now inform my critic (page 391), who is so tender on the subjects of “hurting other men's feelings,” that I am looking forward with great pleasure to see Mr. Iggulden at Warwick Castle Gardens. It is now only necessary for me to add that it is not the “product of the brains” of such Vine growers as my latest critic, that I should even wish to take credit for. If he has anything more to say in the matter let him come out of his retreat like a man, and I will recount some further experience in which he may be interested.—H. DUNKIN.

I HAVE been interested in all that has been said on this subject, but cannot agree with Mr. Iggulden. I always like plenty of growth. If less growth would do then I am wasting space in our vineries. When I came here six years ago I found four vineries, the Vines weak and covered with bug. They had been pruned close, the spurs being about 4 inches long. The Vines are between twenty and thirty years old. One Black Hamburgh house had ten Vines in it. I cut out six, spreading the remaining four over the whole roof, and allowed the growths to fill up the extra space. Plenty of them are 4 feet long. The laterals were allowed to grow wherever there was room. I did not prune close, but to a good bud, and continued the same course. Of the four Vines I destroyed two, thinning the remaining two alike. During the last five years I have grown more Grapes than were produced on the four Vines, and the quality is pronounced to be good by the owners. In short, the crops have been heavy, wood strong and well ripened, foliage large and leathery, and this year I have had the best crop, which goes to prove that the roots are at work. I have a leaf before me now 14 inches across, which I will forward. Mr. Iggulden speaks of the Gros Colman on the hard-stopped lateral. That I can quite understand when all the rest of the rod is clothed with laterals,

because I do not think it matters much where the extra growth is so long as there is a fair amount allowed until the Grapes are ripe. I am no writer, but am fond of growing good Grapes, also pleased to give my experience.—G. AYRES, *Marley Hall Gardens, Staffs.*

[The leaf is a good one. Our correspondent appears to favour large Vines and short communications. We have some too long for insertion in the present issue.]

PIPTANTHUS NEPALENSIS.

THE present being an excellent time for planting, we may with advantage call attention to that rare and little-known Indian shrub *Piptanthus nepalensis* (fig. 59), sometimes known as the Evergreen Laburnum. Though it bears some resemblance to one of our most common and beautiful flowering trees, yet it can be easily distinguished from it at a glance by the most casual observer. It is one of those numerous old inhabitants of our gardens that deserve to be rescued



FIG. 59.—PIPTANTHUS NEPALENSIS.

from the obscurity and neglect into which they have fallen owing to the continued and extended introduction of novelties.

It is of branching habit, but not bushy, and seems to need support of some kind, as it has a rather straggling appearance. Trained to a wall it both succeeds well and is very pretty during May and early June, as it flowers abundantly when in good condition. But it is far from being common, though it is quite hardy in most parts of England. It needs the protection of a wall in the northern and colder districts, but in the south it is rarely injured, even if planted in the open.

The name given above is the one by which it is best known, but it has several synonyms, *Baptisia nepalensis* being one that is occasionally seen, and more rarely *Thermopsis nepalensis* and *T. laburnifolia*.

NON-SYRINGING AN ANTIDOTE FOR MEALY BUG.

I HAVE been much interested in reading what has been written at various times on mealy bug in vineries, and as anxiously have I waited the result of an experiment I tried on an old vinery nearly four years ago. I now wish to make my experience known for the benefit of all who will give the plan a trial.

On taking charge of a garden on the 1st November, 1888, I found an

old lean-to vinery so much infested with mealy bug that I was told for years a considerable portion of the Grapes grown in it were not presentable. I do think one could imagine a house more unlikely to be cleaned than it was, being very old and partly decayed. Yet I am pleased to say it is now perfectly clean, and that chiefly through non-syringing. The first winter we cleansed the house as well as possible, also the Vines, but they were scraped except about the spurs. They were then dressed as usual and the border attended to; but I thought if syringing was practised at starting the Vines, all our compound would in a week be washed off; then what was to prevent the bug reappearing as numerous as ever?

These considerations induced me to try starting the Vines without syringing, maintain atmospheric moisture by evaporating pans, and the usual damping two or three times daily according to the weather. This we did, and the Vines broke as well as if they had been syringed every day, but in due time a few insects appeared, but were disposed of by a small brush dipped in petroleum kept in the house for that purpose. That year we had two bunches of Grapes spoiled notwithstanding all our care. The second year the same routine was strictly observed and only one bunch spoiled and fewer insects appeared. The third year we had fewer still, and all the fruit was clean. This season only two insects were noticed and destroyed, so that I can now pronounce our old vinery clean. The Vines and fruit are much improved, though only on two occasions during the last four years was the syringe used when a little spider made its unwelcome appearance. I can strongly recommend any of your readers who may be troubled with mealy bug in their vineries to try the non-syringing system, and I feel confident they will be pleased with the result.—R. R., *Belfast*.

HARDY FLOWER NOTES.

COLCHICUMS AND CROCUSES.

THE Colchicums, too, are in the fulness of their beauty, with flowers of purest white, of blushing pink, of pale purple, or of ruby crimson. They seem as if they had purposely planned that their foliage should not appear until spring, in order that the beauty and elegance of the flower tubes should be fully exposed to view. These same tubes are very beautiful; some like white enamel, and others beginning with white below and passing upwards into pink and pale purple, and into the ruby crimson already mentioned. Perhaps the finest of all in flower at present is the splendid *C. veratrifolium*, with larger and deeper coloured flowers than those of *C. speciosum rubrum*, so deservedly admired by all. One's powers of description of colours seem utterly inadequate to describe that ruby-purple or crimson which seems the prevailing shade of this fine Tulip-like Meadow Saffron, that has hues unlike any to be found in the Tulip race, wide as the range of colours is in those gallant flowers of spring. Fine, too, is a pale coloured one I have as *C. Bertoloni*, which is of palest pink, and is less chequered than many of the genus. Then the double white, one of the most prized of all, is of almost matchless beauty, with flowers which seem as if they had been made of the whitest and most perfectly polished ivory.

We now, too, look with deepest admiration upon the veined and feathered flowers of *Crocus speciosus*, the "blue" *Crocus* with its showy yet tasteful purple-blue flowers, which open their cups gladly to the autumn sun. We have many of these autumn-flowering Crocuses now hastening on as if afraid lest they should be too late to enjoy even the languid sunshine of our late autumn days. Of these more must be said another time, for there are yet many other flowers now pleading for notice ere the frost spirit shrivels them with his icy breath.

It seems as if *Linum flavum* (misprinted *Lilium* in my last notes) would bloom on until the frost comes. It has been well nigh unapproachable in its brightness all the season. It is undoubtedly thoroughly "at home" here, and we have never seen it surpassed.

KNIPHOFIAS OR TRITOMAS.

It is undeniable that the brilliancy and effect of our gardens at this time are greatly enhanced by the presence of these Torch or Flame-flowers. I fear we are, however, travelling in a wrong direction in our search for variety in these flowers. Introducers of new varieties seem to be working to attain early flowering and yellow flowered Kniphofias. While I am heartily in accord with those who desire plants which are not cut down by frost before they have attained their fullest beauty, I feel that to have the Tritoma with us all the summer would result in us looking upon it with comparative indifference, whereas now we look forward to these great and brilliant spikes of bloom which shoot up so rapidly from the dense reed-like foliage and lighten the garden in darkened days. Now it is a flower receiving a warm welcome, but let us have it from May onward and then the result will be—neglect.

Then as to the colour, there is no gainsaying the fact that we have a superabundance of yellow flowers in autumn. It is true these are mostly Composites, and the distinct form and presence—if I may so call it—are in favour of the Tritomas. Let us, however, seek shades of crimson, and then, with Kniphofias, Sunflowers, Rudbeckias, Harpaliums, Asters, Colchicums, and Crocuses, we would have gardens of hardy flowers in their way as delightful as in spring; gardens driving away by their brightness the thought of the passing year, and gardens which would show the wealth of beauty hardy flowers can give us at all times.

Why, then, are the Kniphofias not more frequently met with than at present? Some are of delicate nature, but the varieties of *K. Uvaria*, the old sort, the hardiest of all and still one of the best, will do almost

anywhere, requiring in some cold districts a slight covering with litter in winter. With me the plants generally preserve their foliage throughout the winter. *K. Uvaria* is now comparatively cheap if purchased in quantity; but where expense is a consideration, a stock can be readily raised from seed, and the plants should flower about the third season. I have a clump which is yielding about thirty spikes this year; it is composed of seedlings now some six years old. Many plants from the same sowing were given away; and so easily are they raised from seed sown in a gentle heat in spring, that our large gardens might in a few years, and with little expense, have great masses giving hundreds of flowers.

The Dutch growers, or some of them, at least, plant the crown of the plant a little beneath the surface. This, they say, enables the plant to resist more successfully the severities of their climate, and with a covering of reeds is sufficient protection for all but the delicate sorts. A great point in the cultivation of the Kniphofias is to give them a soil dry in winter but with copious supplies of water in summer. These stately flowers deserve more attention, and where used with judgment, the grower will have no reason to regret the trouble involved.—S. ARNOTT.

DISCUSSION ON APPLES.

COX'S POMONA.

I AM somewhat surprised to see so little reference to this variety in the interesting notes on Apples which appear weekly. In this neighbourhood (Warwick) it is highly prized, both for its good cropping qualities and fine attractive looking fruits. Bushes on the Crab stock have during the last two seasons been loaded with highly coloured fruit. On the stock indicated the trees make good but not extra strong growth, and by keeping the branches thinly disposed, according to my experience during the last two seasons, a good crop annually is almost a certainty.

MANCK'S CODLIN.

I PREFER this variety to Ecklinville Seedling, as it crops equally well, and the beautiful yellow colour the fruits attain when ripe renders them especially attractive. For a market Apple it seems to me to be well nigh perfection.

HANWELL SOURING.

THIS seems to be one of the best cooking Apples planted extensively many years ago. I have old standard trees growing in an orchard, which produce much finer fruit than old trees usually do. We recently gathered a capital crop of large fruit, which might easily be taken for the produce from young trees. Although we have so many fine cooking Apples to choose from now, I think intending planters will do well to plant a few trees of this variety, especially in districts where the soil is light. Our trees are growing in a very open soil, and on a steep bank.

TYLER'S KERNEL.

THOSE who require large Apples should plant this sort. The fruit partakes somewhat of the Blenheim type, except that it is much more conical in shape. This Apple is seldom seen except in the largest collections.

HARVEY'S WILTSHIRE DEFIANCE.

THIS Apple was recommended to me as being first-rate, either for dessert or culinary use. In conversation with the representative of a large fruit nursery I learnt they had grown this Apple for ten years, but had not succeeded in fruiting it. From that I decided to plant the tree high; the consequence is the second year of growth it has given us several very fine fruits. The shape may not be of the best, but it is certainly a striking Apple.—E. M.

EXTENSION VERSUS RESTRICTION IN FRUIT TREES.

THE interesting discussion on the functions of Vine leaves turns upon a point of which the bearing may be traced in other fruit trees. Is extension or restriction the better course? That is the real question at issue, and it would be a profound mistake to limit its scope to Vines. A fortnight ago I had the pleasure of a visit to the Old Nurseries at Cheshunt, and the privilege of being conducted over them by their respected proprietor, Mr. George Paul, who has for years been an active worker in the van of horticultural progress. A few hours with him are a valuable investment of time to all seekers after information. With no reference to the Vine question, but as a course of independent thought founded on long observation, he drew my attention to the advantages of gently coercing Nature rather than violently opposing her in the management of fruit trees. His remarks did not apply to one kind or class of tree alone, and the most eloquent emphasis was lent to them by

the condition of the trees in his splendid nursery, which visitors find—perhaps sometimes to their surprise—is not only, as Mr. Raillem has so aptly described it, “the ancestral home of the Rose,” but also a home for a very remarkable collection of hardy fruits.

THE LESSON OF THE CORDONS.

A great fruit expert not long ago related to me with keen enjoyment how, when visiting the garden of a writer who had made himself an authority on the formation of trained fruit trees some years ago, he found the most perfect examples of skilful training that the mind could conceive. They were in all sizes and all forms, models of beauty and symmetry. There was only one drawback to them—there was not a fruit to be found in the whole collection! The only produce on the place was yielded by the trees that had escaped the “improver’s” hand and been left to Nature’s training. It must be clear to anyone who is in the habit of visiting gardens in which fruit is grown that cordons are too often restricted to starvation point. Are these trees always worth the time and labour expended upon them? I venture to doubt it. Three or four meagre Pears a year are frequently the extent of their crop, and sometimes there is no fruit at all. I have invariably noticed a great difference between trees that have a good length of wall to travel over before the ultimate stopping takes place, and those which are never, so to say, “given their heads.” This is another instance of extension *versus* restriction, and Mr. Paul pointed out to me, in his extensive collection of trained trees, a still more convincing lesson. Some trees that have been checked in order to keep them of the character that is expected of cordons when purchased, follow the orthodox lines of bearing by giving a fruit here and there; but in other trees the side shoots have been allowed to advance and mature instead of being pinched, and are bearing at least six times the quantity of fruit that the others carry. Not only is it more abundant, but it is larger and in every respect finer.

These trees are growing side by side in the same soil, under exactly similar conditions, and the only difference of treatment lies in the energies of the trees in the one case having been kept severely in check, while in the other a natural outlet for them has been permitted. Surely this teaches a very significant lesson, and tells us that a far more cogent reason than convenience of gathering is to be advanced in favour of oblique training. The nearer the horizontal that the trees are trained the greater the length of wall before them, and I would suggest that where in the case of low walls early stopping of the leader has to be practised in order to keep the trees below the top, and virtual if not actual barrenness results, the trees should either be lifted and replanted at a more obtuse angle, or the wall be surmounted by a fence of wirework stretched espalier-like along the top. The beneficial results of the latter system cannot be better displayed than at Manresa House, Roehampton, where practical Mr. Davis has resorted to it for his Pear and Plum trees. In either case room for extension is provided, and its good effects will speedily manifest themselves. The latter plan is preferable to that of greatly depressing the trees, which, as I shall presently endeavour to show, is itself a species of restriction.

STANDARD APPLES.

In trade circles the reputation of the standard Apples at Cheshunt stands as high as that of the Roses does with the general public. They are a very remarkable collection both in extent and cultural excellence. Lines of trees stretch a quarter of a mile or more in length, and they are a sufficient distance apart to allow of horse labour between them. Here is a batch of 1500 Blenheims, there 800 to 1000 of Ecklinville Seedlings, and other popular varieties are also largely grown, the total number amounting probably to 70,000 or more. This, be it understood, represents standards alone, other classes of trees being also grown largely. It would be difficult to imagine more admirable specimens of planting standards, the stems being thick, vigorous, and upright. I particularly noted the sturdy character of the stems, and it is worthy of note that the splendid foundation they provide has been obtained by permitting a little growth extension. Instead of the stem shoots being at once removed they are allowed to make growth for the special purpose of thickening the stem in the earlier days of the tree. Thus the younger members of the plantation are feathered with foliage up to the branches. The shoots are of course ultimately removed, but not until they have served a very useful purpose of the nature indicated. Here again is an instance of the advantages of extension as opposed to restriction. Only those who see the trees can realise the full benefits of the cultural treatment adopted, and it is only bare justice to them to state that I have never seen a more remarkable example of nursery practice than that of the Cheshunt standards.

TRAINED TREES.

The trained trees are equally excellent in their way, and the same non-restrictive rule runs through the practice. The stock is

not represented by a tree here and there amongst quarters of other classes, but a large breadth of them are growing together, and they are very striking. I believe that they are the special work of Mr. Paul, jun., who has graduated in a good school and thoroughly digested its lessons. The rule adopted throughout is to train diagonally instead of horizontally. Now this in a sense is following out the extension principle, for if it be correct that the natural flow of the sap is more free in the perpendicular than the horizontal direction, it must follow that any departure from the latter in the direction of the former is a concession to Nature and a tendency to extension instead of restriction. The results at Cheshunt are full of significance. There is equal neatness in the diagonally trained trees, and there is superior vigour and productivity. This should tell us that there is a great unifying principle running through plant life which it is better to guide than to oppose. Mr. Paul teaches a life lesson with his cordon, standard, and trained trees which others have played with as a mere physiological theory. For this not less than for the information derived from a pleasant hour in his richly stored library with its rare old volumes, I have reason to gratefully remember a passing visit to the old Rose home.—W. P. W.



CHRYSANTHEMUM SHOWS.

THE following Chrysanthemum Shows, which have been advertised in our columns, will take place during the ensuing week. We append the names and addresses of the respective Secretaries. That marked * opened yesterday (Wednesday).

*Nov. 16th, 17th, 18th.—York. J. Lazenby, 13, Feasgate, York.

„ 17th, 18th, 19th.—Edinburgh. R. Laird, 11, South Frederick Street, Edinburgh.

NATIONAL CHRYSANTHEMUM SOCIETY.

THE annual dinner of the National Chrysanthemum Society will take place on November 30th at Anderton’s Hotel, Fleet Street. Sir Edwin Saunders, President of the Society, will occupy the chair.

THE NATIONAL CHRYSANTHEMUM SOCIETY.

If the resolution published in the *Journal of Horticulture* on page 404 represents the feeling of the Committee of this Society in relation to the complaint made against members of its Floral Committee by Mr. Godfrey of Exmouth, then does it sustain the opinion that the Society is governed by metropolitan growers, all of whom evidently do not banish from their minds their possible trade interests. That is the prevalent country estimate. The resolve of the officials naturally leads to the inference that they are in sympathy with the trade growers whose action, so seriously complained of, has been brought before them. If remarks are made at the table unfit to be heard by outsiders, they are unfit to be made at all. The publication of Mr. Godfrey’s complaint, and Mr. Wells’ exposure at the Aquarium, let in a flood of light upon the objects of certain persons in connection with the Society’s Floral Committee. As the Royal Horticultural Society has an Orchid and a Narcissus Committee, I suggest that a Chrysanthemum Committee be appointed also, from which dubious persons be excluded. Let the Committee meet at the Society’s offices weekly when there are no Drill Hall meetings. This would prove to be a very popular move in the country.—K.

CERTIFICATED CHRYSANTHEMUMS.

IN addition to the Chrysanthemums to which we referred in our last issue, the following varieties were adjudged first-class certificates at the Royal Aquarium last week by the Floral Committee of the National Chrysanthemum Society. To Mr. R. Cawte, Esher, for an incurved named Brookleigh Gem, a sport from Jeanne d’Arc, of a purplish shade. To Mr. C. E. Shea, Foot’s Cray, for Miss Dorothea Shea, a cross between E. Molyneux and Sunset. This is a promising Japanese variety of a large and striking appearance, the florets being reddish in hue, with a silvery reverse. To Mr. J. Agate, Havant, for Princess May, a large white Japanese of rather a thin appearance. Also to E. C. Jukes, Esq., Hadley Lodge, Barnet, for Japanese Anemone La Deuil, a charming variety of a crimson purple colour.

CHRYSANTHEMUMS AT BARTON-UNDER-NEEDWOOD.

MR. J. C. GRINLING of Barton-under-Needwood, who annually invites his neighbours to come and see his Chrysanthemums, has this year a collection of 145 varieties in 290 pots. Mr. Davis has arranged the plants along the sides of the house, with the colours so intermingled as to produce a very pretty effect. The blooms as a whole are thoroughly well developed, and the Japanese are particularly good, Etoile de Lyon, Vivian Morel, Florence Davis, Puritan, and Thomas Stevenson

being among the best. Of the reflexed King of Crimsons and Chevalier Domage are fine. In the incurved section Lord Alcester, Jeanne d'Arc, Mons. R. Bahuant, Mr. Bunn, and Alfred Salter are very fine. Mrs. Judge Benedict and Madame Robert Owen do credit to the Anemones; and Sœur Melaine is as pretty as ever among the Pompons.—H.

DR. WALKER'S EXHIBITING TUBES.

At the Crystal Palace Show the first class certificate was awarded to me, and not to Messrs. Shuttleworth & Co., Limited, who are wholesale agents, but not the wholesale agents of my patent tubes.—GEO. WALKER.

GRASSENDALE CHRYSANTHEMUM SHOW.

At this Show, held last Saturday, the 10-guinea cup presented by the President, A. L. Jones, Esq., for cut blooms, and to be won two years in succession, was carried off by Mr. Donald Forbes, gardener to Alfred Holt, Esq., Crofton, Aigburth.—R. P. R.

MESSRS. CARTER & CO.

MESSRS. CARTER & CO., the well-known seedsmen, have made a special feature of Chrysanthemums at their nursery in Houston Road, Perry Hill, near Forest Hill, for several years, and this season have shown far better than they have ever done previously. The group they arranged at the Crystal Palace would have taken first place at the majority of shows, and was without doubt one of the best yet seen at any exhibition. The plants were admirably grown, and bore very fine blooms. They have a large collection in their nurseries displaying the same qualities. About 2500 plants are grown, and these embrace a large number of novelties, some home-raised, others acquired from various sources. By far the best of the former is a variety named Rosy Morn, which is likely to prove a great acquisition to the list of exhibition Japanese. It is in the way of Sunflower, having the same smooth, soft florets, and shapely build, but the colour is a very pleasing blush or pale pink on the crown bud and bright rose on the terminal. Both are distinct and beautiful. It is a very sturdy grower. The National Chrysanthemum Society have awarded a first-class certificate to this variety. Another novelty that is well worth a good trial is a Japanese incurved, much resembling Lord Brooke in build, having the same shape and broad substantial florets, but the colour is deep bronze with gold tips. The variety is a strong grower and a free bloomer. It ought certainly to have a name, and to be well tested. There is also a seedling of the Wm. Holmes type, with very large deep rosy lilac flowers, that is likely to prove useful.

Many novelties of the last year or two are well represented. Thos. Stevenson, a crimson reflexed with gold tips, is very handsome. Vivand Morel is, as usual, very fine. W. A. Manda, which proves to be a distinctly late variety, is fine in colour but thin, and this appears to be its character everywhere. Edwin Beckett, Louis Boehmer, and Marie Hoste are all in excellent condition; so, too, is Mrs. J. Wright, which is well grown and, as represented here, extremely beautiful. Of Mons. Carrière there are several large blooms, while Mrs. Nisbet is equally good. Holborn Dragon exhibits the colour variation often shown by different buds. On the terminal it is rosy lilac, on the crown much paler, almost white in fact. J. Stanborough Dibben proves itself a very sturdy grower, and at Forest Hill is much broader in the petal than it has been seen elsewhere. It will doubtless take a very high place among the exhibition yellow Japanese. Lady Lawrence or Mrs. Beale is good on the terminal, but poor on the crown. In its best condition this lovely white is one of the most beautiful Chrysanthemums grown. Kate Mursell, the yellow form, has the same characteristics. Vice-President Audiguier is in admirable condition. This rosy Japanese is sure to grow in popularity. The yellow Japanese Mrs. Libby Allen is conspicuous for its fine broad florets. Holborn Rose, a tall Japanese, coming best on the terminal; Milner Holt, a very late yellow Japanese; and Miriam Carter, a late pink Japanese, were also noteworthy.

If the improvement exhibited this season is maintained another year there can be little doubt of the Perry Hill Chrysanthemums being nearly at the top of the tree.

THE PRIORY, HORNSEY.

IN more respects than one the Chrysanthemum is a flower of surprises. Not only do we find varieties cropping up, to blaze brilliantly for one season, and pale before other novelties the next, but new growers appear year by year, and in a very short time take prominent positions amongst exhibitors. A noteworthy instance of the truth of this may be pointed to in Mr. Rowbottom, gardener to H. R. Williams, Esq., a gentleman who has had a very large share in the work of improving the position and prospects of British fruit growing, but whose interest in horticulture embraces flowers as well as fruit. Helped and encouraged by a sympathetic employer sharing his own love for Chrysanthemums to the full, Mr. Rowbottom has made rapid strides to the front. He commenced showing three years ago, and signalled his accession to the ranks of Chrysanthemum exhibitors by modestly annexing twenty-one prizes. This was by way of giving his opponents a good taste of his quality, and warning them to look out for future squalls. Whether they trimmed their sails or not, the following season the rising Hornsey grower improved on his initial efforts by carrying off twenty-eight prizes, and this season he has gone still further ahead by taking thirty-nine. A considerable number of these are firsts. He has also captured the 10-guinea cup at Highgate, towards securing which he registered one win last season, has received two silver medals and one first-class certificate. This is a record to which any exhibitor might point with

honest pride. Mr. Rowbottom has now secured a more than local reputation, and may rank with Messrs. Beckett, Whittle, Shoesmith, Carpenter, Mease, and other of the leading exhibitors near London. He takes his successes modestly and quietly. May he continue to do so in the bright future that evidently lies before him, thus meriting the favour of a good master and the respect of the public.

Those who have been tempted to call at The Priory gardens by observing the splendid quality of the flowers at the Royal Aquarium, Kent County, Highgate, and other Exhibitions cannot fail to have been surprised at the great number of fine flowers which Mr. Rowbottom has managed to secure from a collection of about 600 plants. He has been exhibiting grand examples of the principal new and old varieties. When a call was made towards the end of last week he had Lord Brooke in most effective and promising condition, the flowers being large in size and with enormous florets. This novelty is likely to prove a great acquisition, for it has exceptional substance allied with a most distinct colour. All exhibitors should secure it. Apparently it will have to be classed with the Japanese incurved. J. S. Dibben was represented by an immense flower, and of Marie Hoste there was one of the finest blooms, if not the finest, ever exhibited. It would be difficult to give an adequate idea of the beauty of this lovely variety when in such condition. Hamlet, Etoile de Lyon, and Beauty of Castlewood are three older varieties splendidly grown at The Priory. The latter had florets $1\frac{1}{2}$ inch across. From three plants of Golden Dragon eight blooms of exhibition size have been cut. Mrs. Marian Thrower is a creamy Japanese, of which Mr. Rowbottom has had fine blooms. Colonel Smith was in splendid colour, and the same may be said of Alberic Lunden, which is so fine in hue and so effective that it will probably be in far more stands a year or two hence than this season. Coronet, by no means a good doer, is excellently grown, and so is Florence Davis. Puritan and W. Tricker are splendid. Mr. Rowbottom thinks so highly of them as to prophesy their being leading varieties twenty years hence. He also has a Japanese named Mdme. E. Mulson that may become popular. It is about the same colour as Maiden's Blush, but of better build.

The incurved grown at The Priory have been amongst the best of the year. The flowers have run somewhat flat this season in most places, but those at Hornsey are deep and conical. Alfred Salter and Mrs. Robinson King are particularly fine. Empress of India, Queen of England, and Barbara are a trio of old varieties in beautiful condition. Mons. Darrier has been grandly grown and shown by Mr. Rowbottom. The bloom that secured the prize for the best incurved at the Kent County Show on the 2nd inst. formed part of a winning stand at Hornsey on the 10th, fresh, bright, and beautiful. This variety is a fine addition to the incurved section. One of the most noteworthy varieties in the other sections is the Anemone Pompon Emily Rowbottom, a blush sport from Marie Stuart, and the pale yellow Pompon Wm. Westlake is very fine also. Besides those named many other varieties have been carrying splendid flowers. The remarks made by Mr. H. R. Williams at the Hornsey Show prove him to appreciate not only the good work of his own gardener, but also that of others. He is prominent in encouraging all good horticultural work, and many plants find their way from The Priory garden to the cottagers in the neighbourhood, thus inducing them to make a start. This merits at least as warm recognition as the winning of innumerable prizes for the home flowers. May both continue.

NOTES FROM AN IRISH GARDEN.

HERE in the suburbs of the Irish metropolis the Chrysanthemum fever rages, though affording more pleasure than most epidemics. In this neighbourhood most growers complain of the late development of the flowers, owing probably to a cool summer (we missed the heat wave which reached other shores), and a spell of cold wet weather, lasting three weeks after housing the plants.

Here at the foot of the Dublin mountains spells of bright sunshine are common in November, though the city, but four miles distant, may be, and often is, enveloped in fog. Brighter days, with fire heat at night, are now rapidly changing things, and the flowers are fast developing, and one enjoys watching the results of past labours—a labour of love, though. Amongst Japanese Elaine is first, with fine, solid flowers of great depth and substance. Avalanche and Stanstead White are prominent, and will be good. Mrs. A. Hardy has behaved erratically this season. Bud-taking of this commenced the middle of July; the first flower was at its best the middle of September; from thence till now they have been opening, giving superb blooms of great size. Louis Boehmer large, improving in colour as it develops. Etoile de Lyon huge, and that is all; but in Vivand Morel we have substance and colour as well as size. Golden Dragon comes in good form here, and is now throwing out its clawed petals as a good dragon should. Sunflower, too, is in fine form, and Peter the Great gives fine deep flowers. E. Molyneux as usual is good, Mons. Freeman a chaste flower, and dwarfest of the dwarf in habit. Amongst incurves the Empresses, Queens, and the Princess type promise well, but are late. Robert Cannell is early, with flowers nearly as large as a dinner plate, and, alas! so far as flat; while Hero and its sports will not be in till end of the month.

The old (near sixty years of age) Royal Horticultural Society of Ireland will hold its two-days show November 17th and 18th; whilst unfortunately the two leading suburban societies fixed their exhibitions for the day previous, thus disappointing some growers who would like to compete in the open classes, but cannot see their way to interfere with their best efforts for the Royal Society's Show, nor handicap themselves by exhibiting flowers which had stood the dust and rubbing of a

musical promenade till 10 P.M. the day previous. A week earlier or later would catch earlier or later flowers, and prolong the season instead of, like one grand pyrotechnic display, wind up abruptly our season here in Dublin for 1892.—E. K.

ROYAL HORTICULTURAL SOCIETY.

NOVEMBER 15TH.

CONSIDERING the time of year there was a fair display of plants and flowers at the Drill Hall on the above date. Chrysanthemums were conspicuous, as also were Orchids, though fruit was not well represented.

FRUIT COMMITTEE.—Present: Philip Crowley, Esq. (in the chair), with Rev. W. Wilks, Dr. Hogg, Messrs. H. Balderson, F. Q. Lane, J. T. Saltmarsh, G. Taber, A. Dean, G. Bunyard, G. Wythes, and J. Wright.

As will be apparent the meeting was small, and only a limited amount of produce was placed on the table for examination.

Mr. Miller sent from Ruxley Lodge, Esher, fruits of Golden Ball Melon. The Committee desired to see the variety in the summer, as a just estimate cannot be formed of Melons at this late period of the year. Mr. Miller also sent a dish of second crop Brown Turkey Figs, very good for the season, and a vote of thanks was accorded. Mr. R. Gilbert, Burghley Gardens, sent fruits of Gilbert's Satisfaction Tomato, a flat well coloured fruit of excellent quality, resembling Laxton's Open Air. As it was described as a good forcing variety the Committee desired to see fruits in March.

Mr. Crowley brought specimens of Plums which had been dried by him on wire trays in an ordinary oven, and then prepared for use. They were very good. Dr. Hogg remarked that the practice of drying fruit in a similar way was common among the peasantry in France. Mr. Wilks and Mr. Bunyard both remember the custom in Kent, but it fell out of use when French Prunes became plentiful in shops. We can only say, "More's the pity." Mr. Crowley has revived the practice of domestic fruit drying, and more will perhaps be heard about it.

Mr. Braun, Walsall, sent large kidney Potatoes of Fidler's Colossal. Mr. Barron was requested to have samples cooked and report to the next meeting. The variety has been grown at Chiswick, where it produced haulm 6 feet long or more and a heavy crop of tubers. Those placed before the Committee were too large for table use, but of excellent shape and of great density.

Mr. G. Wythes exhibited about twenty Melons—a good display for the time of year, and a bronze medal was awarded.

Several consignments of Apples were sent to be named, and in one or two instances their market value was requested. The majority of the varieties were of local origin and practically worthless. Such samples placed in markets form the most effective invitation to growers in other countries to increase their consignments. It is pitiable to see the trash that is grown in ancient orchards and exhausted soil; and yet the "growers" complain of low prices and foreign competition! The remedy is in their own hands.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair), Messrs. B. Wynne, H. Herbst, C. F. Bause, C. T. Drury, G. Phippen, H. Cannell, C. Jefferies, C. J. Salter, C. E. Pearson, W. Furze, W. Bennett Poë, H. H. D'Ombraim, J. Fraser, and G. Paul.

Mr. H. B. May, Dyson's Lane Nursery, Upper Edmonton, sent a splendid collection of Ferns, amongst which were some very choice varieties. *Pteris tremula variegata*, *Gymnogramma multiceps superba*, numerous *Adiantums*, and *Platyteriums* were most conspicuous (silver-gilt Flora medal). Mr. G. Wythes, gardener to the Duke of Northumberland, staged a collection of 140 Chrysanthemum blooms, the whole making a bright display. The flowers were fresh and tastefully arranged with Palms and Ferns (silver Banksian medal). Messrs. H. Cannell and Sons, Swanley, sent three boxes of Chrysanthemum blooms, some of which were adjudged awards of merit. These are described elsewhere. Messrs. Cannell also staged a number of Zonal Pelargonium blooms, the colours of which were exceedingly bright, and showed to advantage on a dull November day. Among others *Madame de Boudeville*, a charming light pink, may be mentioned as being particularly good (silver Banksian medal).

Mr. G. Miller, gardener to Lord Foley, Esher, sent a basket of Marie Louise Violets, the flowers being large and fragrant. Mr. Chas. Blick, gardener to Martin Smith, Esq., The Warren, Hayes Common, Beckenham, had blooms of Chrysanthemum Mr. Chas. Blick, for which an award of merit was adjudged. Mr. C. E. Shea, The Elms, Foots Cray, Kent, also sent some new Chrysanthemums. Mr. E. Molyneux, Swanmore Park; Mr. R. Owen, Maidenhead; and Mr. J. Dibbens, Brockley; also staged new Chrysanthemums, all of which were passed. Messrs. J. Veitch & Sons had two boxes of Chrysanthemums, blooms large and bright, also a pan of *Begonia decora*, which was awarded a first-class certificate. Messrs. J. R. Pearson & Sons, Chilwell Nurseries, Beeston, Notts, sent new Chrysanthemums. These were adjudged awards of merit, and are described below. W. Seward, Esq., The Firs, Hanwell, also sent Chrysanthemum *Princess Victoria*, likewise referred to below.

Mr. G. Wythes was awarded the first prize for a group of Chrysanthemums in pots, showing well-flowered plants.

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair), Messrs. J. O'Brien, S. Courtauld, E. Hill, W. H. White, and T. B. Haywood.

Orchids were fairly well represented. Messrs. B. S. Williams and

Son, Upper Holloway, sent a small group of *Cypripediums*, *Cattleya gigas*, and *Cymbidium giganteum*. Among the former *C. Petcherianum Williamsiana*, and *C. "Aclonis superba"* were most conspicuous. The latter is a new seedling of an attractive appearance. C. J. Lucas, Esq., Warnham Court, Horsham (gardener, Mr. G. Duncan), staged a splendid bloom of *Cattleya Massiana*, and two pieces of *Angraecum bilobum*. A spike of *Cattleya Harrisii* carrying four flowers was staged by Thomas Statter, Esq., Stand Hall, near Manchester. Messrs. F. Sander & Co., St. Albans, had a small collection, amongst which *Cypripedium Edithæ*, *C. alcides*, and *C. "G. S. Ball,"* all new hybrids, were noticeable. R. Young, Esq., Sefton Park, Liverpool, sent blooms of *Cattleya labiata* Young's var., and Mr. Houghton, Walthamstow, staged a grand spike of *C. labiata vera*, carrying six fine flowers.

Messrs. J. Laing & Sons sent a good variety of *Odontoglossum crispum*, and Sir Trevor Lawrence staged, amongst others, *Cypripedium Morganæ Burfordiense*. This was awarded a first-class certificate, and is described elsewhere. Messrs. H. Low & Co., Clapton, staged a small collection, tastefully arranged with Ferns and Palms. Messrs. J. Veitch and Sons, Royal Exotic Nursery, Chelsea, sent a small collection of choice species and varieties, several of which were honoured with certificates. Mr. J. Fitt, Panshanger Park, Hertford, sent plants of *Cypripedium insigne*.

Mr. C. E. Pearson of Chilwell Nurseries, Beeston, Notts, gave an interesting lecture on "Pelargoniums for Autumn Blooming" at the afternoon meeting, which was fairly well attended.

CERTIFICATES AND AWARDS.

Catasetum tabular (Welbore S. Ellis, Esq.).—The plant exhibited was carrying four flowers. The sepals and petals are of a dull red colour, the lip cream, heavily spotted with brown (award of merit).

Cypripedium Morganæ Burfordiense (Sir Trevor Lawrence).—A very fine variety, resembling the type somewhat in colour. The dorsal sepal is broad, veined with green and brown, the edge being white and pink. The petals are long and heavily spotted with chocolate, the lip large, and of a reddish brown colour (first-class certificate).

Cypripedium Persens (J. Veitch & Sons).—This is a hybrid between *C. Lindleyanum* and *C. Sedeni porphyreum*, and is of an attractive character. The specimen shown had one spike nearly 2 feet in length, and bore one fully expanded flower and several buds. The dorsal sepal is small and short, pale yellow, veined with bright crimson. The petals are narrow, about 1½ inch in length, light green in the centre, with crimson margins. The lip is reddish with a pale yellow throat, slightly spotted (award of merit).

Lælio-Cattleya Aurora (J. Veitch & Sons).—A hybrid between *C. Loddigesii* and *C. pumila Dayana*. The sepals and petals are of a rosy mauve shade, the lip being similar at the base, but with a rich crimson edge (award of merit).

Cypripedium Tityns (J. Veitch & Sons).—This is a magnificent hybrid. It is the result of a cross between *C. ceananthum superbum* and *C. Spicerianum*, and possesses the colour of the latter. The dorsal sepal is large with a broad white margin, which makes a pleasing contrast to the greenish yellow and spotted centre. The petals are dull yellow and similarly spotted, while the lip is of a olive green shade. The following statement was staged with the plant:—"Four distinct species are concerned in the ancestry of this hybrid, thus: The seed parent is *C. Spicerianum*; *C. ceananthum superbum* was obtained from *C. insigne* var. *Maulei* and *C. Harrisianum superbum*; and *C. Harrisianum superbum* was obtained from *C. barbatum* and *C. villosum*." It is, therefore, an interesting cross (first-class certificate).

Cattleya labiata albanense (F. Sander & Co.).—This is a grand variety, the specimen shown carrying ten large flowers. The sepals and petals are rosy mauve, the front of the lip being rich crimson with a light crested edge (award of merit).

Chrysanthemum Lord Brooke (H. Cannell & Sons).—An incurved Japanese with a medium size bloom. The florets are of a moderate width, and old gold colour, tipped and suffused with red; a new and telling colour (award of merit).

Chrysanthemum Aida (H. Cannell & Son).—A Japanese variety of great promise. Florets deep pink with pale yellow tips, the centre of the bloom being yellow, quite new in colour and very pleasing (award of merit).

Chrysanthemum Mr. Chas. Blick (Mr. Blick).—This is a charming incurved Japanese variety of a bright yellow colour (award of merit).

Chrysanthemum Miss Dorothea Shea (Mr. C. E. Shea).—This is the result of a cross between *E. Molyneux* and *Sunset*. The flowers are large and of a dark crimson colour, with a pale reverse (award of merit).

Chrysanthemum Robert Flowerday (J. R. Pearson & Sons).—An incurved Japanese of an immense size. The florets are broad, bright crimson colour, with a silvery reverse (award of merit).

Chrysanthemum Mrs. Needs (J. R. Pearson & Sons).—A charming Japanese variety with narrow florets, which are white at the base tipped and edged with pale pink (award of merit).

Chrysanthemum Princess Victoria (W. Seward, Esq.).—A Japanese variety of great depth and solidity, white florets, and greenish yellow centre (award of merit).

Begonia decora (J. Veitch & Sons).—This is an ornamental foliage species. The leaves are rather small, of a dark brown or chocolate colour and rough surface, the veins being bright green (first-class certificate).



EVENTS OF THE WEEK.—The ensuing week will be a comparatively quiet one in horticultural circles. A few important Chrysanthemum exhibitions remain to be held, and a brief list of these will be found on another page. Several auction sales will take place, for particulars of which see advertisements.

— **THE WEATHER IN LONDON.**—Thick black fogs were prevalent in the metropolis at the end of last week. Sunday, however, opened more favourable, it being mild with occasional glimpses of sunshine. Bright and mild weather characterised Monday, but Tuesday proved dull and wet. At the time of going to press it is raining.

— **WEATHER IN THE NORTH.**—November 8th to 15th.—A week of dull, foggy, wet weather. The 10th was an exception; there was a slight touch of frost in the morning, and the day and evening were fine. The afternoon of the 14th and the evening were very wet. The thermometer has frequently during the week stood over 40° throughout the night.—B. D., *S. Perthshire*.

— **CYCLAMEN AT THE GLOUCESTER AND CHELTENHAM SHOWS.**—Messrs. Sutton & Sons of Reading were awarded six first-class certificates for beautiful and distinct varieties of Cyclamen at the Gloucester Show, whilst at the Cheltenham Exhibition they received nine first-class certificates. These flowers are now highly worthy of inspection at Reading. We are compelled to defer the publication of the report of the Gloucester Show.

— **FRENCH APPLES IN LONDON.**—According to an American contemporary France at the present time is "sending 20,000 packages of Apples per week to the London markets, and these are being sold at low prices." Immense quantities of foreign fruit, and much of it of an inferior nature, are now being sold in the metropolis, but the accuracy of the above statement is open to question. Albeit, well-grown British fruit always commands remunerative prices.

— **A NARCISSUS EXHIBITION.**—An Exhibition of Narcissi will be held in the Edgbaston Botanical Gardens on April 26th and 27th next under the auspices of the Birmingham Botanical Society, and it is hoped that representative collections and new varieties will be staged by cultivators. Classes will be devoted also to plants in pots to show their usefulness for indoor decoration, and particularly to encourage this object Mr. Robert Sydenham gives five prizes for twelve pots of curious varieties.

— **WOOLTON GARDENERS' MUTUAL IMPROVEMENT SOCIETY.**—The first of a series of lectures under the auspices of the Lancashire and Cheshire Association for the Extension of University Teaching was delivered by T. L. Bailey, Esq., Ph.D., University College, Liverpool, on Thursday, the title being "The Constituents of Plants, and Whence They are Supplied." There was a very fair attendance, and the lecture, being illustrated by experiments, proved very interesting, and gained the closest attention of the audience.—R. P. R.

— **HORTICULTURISTS AS MAYORS.**—It is gratifying to note that at least two horticulturists were selected for municipal honours last week—namely, Mr. Samuel Barlow, J.P., of Stakehill House, Castleton, as Mayor of Middleton; and Mr. W. Herbert Fowler as Mayor of Taunton. Mr. Barlow is a most enthusiastic florist, and Mr. Fowler is a well-known Chrysanthemum grower and exhibitor, he having secured the first prize for forty-eight Japanese blooms at the Royal Aquarium last week, in addition to other awards.

— **AN ADDITION TO WATERLOW PARK.**—The London County Council have undertaken to restore, under the direction of Mr. Blashill, Lauderdale House, which together with its own terraced and old-fashioned garden, is now included in Waterlow Park, Highgate. The park consists of 29 acres, the gift of Sir Sydney Waterlow, to which he added £6000 for the purchase of the freehold of a portion (2½ acres) then held on lease. The Council voted £4900 to defray the cost of adapting the grounds for public resort. The house was the home of John, Duke of Lauderdale, and it is said of Nell Gwynne.

— **HARDY TREES AND SHRUBS AT KEW.**—It is said that the arboretum of Kew, which was very small a quarter of a century or so ago, now contains over 3000 species or marked varieties of trees and shrubs.

— **FLORICULTURE IN THE SOUTH OF FRANCE.**—Floriculture is rapidly extending in the South of France. In certain parts of the Alpes Maritimes Rose-growing brings a profit of from 10,000 francs to 12,000 francs an acre. It is in winter that the flowers are most in request.

— **PLYMOUTH CHRYSANTHEMUM SHOW.**—We are informed by telegram that in the open class for forty-eight blooms at this Show Messrs. W. & G. Drover, Fareham, were first; Miss Frith, Teignmouth, second; and Mr. W. Herbert Fowler, Taunton, third. The Exhibition was held on Tuesday, November 15th.

— **AGAPANTHUS UMBELLATUS ALBUS.**—Your correspondent, "Rectory," page 416, in writing about this plant says that he cannot get it to flower. I have two plants of it, which flower beautifully every year, and they are treated exactly the same as the blue variety. The white ones that I have were brought to me by a friend direct from the Cape.—EDWARD COSTATE.

— **AUSTRALIAN FRUIT.**—An American paper says, "The last year's shipment of Australian fruit to London was profitless to shippers, owing chiefly to inferior packing. Another such a season will destroy the English market for Australian fruit." We are inclined to think that superiority of English-grown fruit will in future tell heavily against foreign productions.

— **TRENTHAM GARDENS.**—We are desired to state that Mr. Peter Blair has arranged with the Duke of Sutherland to remain with him as head gardener at Trentham instead of taking the Trentham Hotel, as previously arranged. The Duke and Duchess take a very great interest in the gardens, and Mr. Blair is the right man in the right place at princely Trentham.

— **THE WEATHER IN DUMFRIES.**—The weather here during the past week may almost be summed up in one word—rain. Saturday, 12th inst., was, however, dry nearly all day, but dull. Some days high winds prevailed; but, generally speaking, it has been calm. The rainfall has been heavy, and to-day (14th) there is no appearance of any improvement.—S. ARNOTT, *Dumfriesshire*.

— **A LEICESTER VEGETABLE SHOW.**—Messrs. Harrison & Sons' annual vegetable and root Show opened on Wednesday, November 9th, at the Market Hall, Leicester. The vegetables were staged in a very effective manner. The Show was, during the day, visited by hundreds of people. Compared with last year, the exhibits were of a far superior quality, and the entries were numerous, especially those of Potatoes, Onions, Leeks, and Carrots.

— **ARE ALL YEWS POISONOUS?**—Replying to a query asked by Earl Cathcart at the last meeting of the Council of the Royal Agricultural Society as to what was known as to the poisonous properties of the Yew, and whether the trees of one sex only or of both were poisonous, Mr. W. Carruthers, F.R.S., said the question whether the poisonous qualities of the tree were restricted to one sex only of the plant could not be answered in the affirmative.

— **ORANGE GROWING IN FLORIDA.**—It is stated that on Tuesday, November 15th, the steamer "Ethelwold," from Fernandina, Florida, started with the first cargo (15,000 boxes) of Florida Oranges ever shipped to England. This shipment will reach and be sold in London about December 5th. At the present time the United States produces six million boxes, each containing 200 Oranges. In a few years Florida and California will produce ten million boxes, three million at least of which, writes a correspondent, will have to go to Europe, "to avoid glutting American markets." The present cargo has been collected from 200 different Orange growers.

— **GHEENT INTERNATIONAL EXHIBITION, 1893.**—A circular has been issued by the Committee of the Ghent International Horticultural Exhibition in 1893 calling attention to its comprehensive character. It is pointed out that there are 660 classes, embracing a very wide range of material, from hardy and indoor plants of all kinds to objects of art and industry, that nearly 1500 medals will be offered, including a gold medal each from the King and Queen, and that space will be free to exhibitors. The circular concludes by stating that the Exhibition, which will be open from the 16th to the 23rd of April next, will be unique. More than 100,000 plants will be gathered together, as well as objects of art.

— AMERICAN GARDEN IMPLEMENTS.—In reply to your correspondent, W. R. Raillem, page 416, I wish to say that I have used one of the Combined Planet Jr. Garden Cultivators, and on very light friable soils, free from stones, I found it useful. For general use in England, however, these implements are not suitable. But I think they should give a hint to village blacksmiths to make tools that are handy if the Small Holdings Act becomes a practical matter.—R. MAHER.

— ANTI-BLIGHT.—Will you please tell me through the Journal the address of the manufacturers of Tate and Buchanan's Anti-Blight, also the vendors of the Melba Bellows? I cannot understand why people do not advertise their goods when they see them highly spoken of.—MILDEW. [Perhaps they can sell sufficient without. The agents, as we have several times stated, are Messrs. Barr & Son, and their address is usually to be found in their advertisement on the front page of the *Journal of Horticulture*.]

— MANAGER OF THE LONDON PARKS.—It is reported that the London County Council finally decided last week not to appoint a superintendent of the London parks at a salary of £700 a year, as was originally intended. The duties of certain present officials have been re-arranged, and Mr. J. J. Sexby, of the architects' department, becomes chief officer at a salary of £500 per annum. Mr. Sexby, although not a gardener, takes an interest in the profession, and for several years has been a member of the Committee of the Gardeners' Royal Benevolent Institution. It has also been decided to appoint a new officer having a special knowledge of horticulture at a salary of £300 a year, to act as Mr. Sexby's assistant, and to be called the assistant-superintendent.—P. S.

— DISEASE OF THE VINE.—The very destructive American disease of the Vine known as the "Black-rot" has, for some years past, made its appearance in Europe, and its life-history has now been thoroughly investigated by Viala, Ráthay, and others. The ravages of the disease have been traced to a parasitic fungus, *Læstidia Bidwelli*, the mycelium of which develops in the interior of the organ attacked, chiefly the young branches and berries, and produces spermatophytes and pycnids in the course of the summer. It is especially by the pycnosporangia that the fungus is disseminated. Towards the end of the period of vegetation sclerites are formed, usually within the pycnids, and the conidiophores spring from these. Perithecia are also formed in May and June on the fallen and infected berries of the previous year. Until recently the ravages of this pest in Europe were confined to the French vineyards, but it has recently been detected in Austria and in Italy. The most effectual remedy for it is salts of copper.—(Nature.)

— DISCHIDIA RAFFLESIANA.—The "Kew Bulletin" states that after many unsuccessful attempts to introduce living examples of this interesting plant, Kew has at last succeeded, thanks mainly to the generosity of Dr. Treub, the distinguished Director of the Botanic Gardens, Java, who sent a plant of it in a Wardian case two years ago. This plant is now established and growing freely, producing numerous large pitcher-like leaves as well as the small normal Hoya-like foliage. The morphological meaning of these pitchers has not yet been thoroughly worked out. "The species of *Dischidia* all want a careful study. They cannot be described satisfactorily from dried specimens. The leaves change in form, and it is not ascertained in respect of many species whether they may or may not be converted into pitchers (ascidia)."—Hooker in "Flora of British India." The plant at Kew is now under the special observation of Dr. Scott, hon. keeper of the Jodrell Laboratory. *D. bengalensis* is an old garden plant. It is cultivated at Kew in the Palm house. *D. Rafflesiana* is for the present kept in one of the propagating pits.

— SENDING PLANTS BY POST.—We receive evidence of the inability of persons to pack plants so that they may pass a day or two safely in the post only too frequently; what would they say to plants journeying 14,000 miles, spending five weeks in the post, and then arriving perfectly fresh? When at Swanley the other day Mr. Cannell showed us an original letter acknowledging the receipt of some plants by Messrs. D. Hay & Son, Montpellier Nursery, Auckland, New Zealand. It ran as follows:—"We have very much pleasure in stating that we received the two tins by post yesterday containing *Chrysanthemums*, *Carnations*, and *Pelargoniums*, and out of the whole number we do not think we shall lose one, as they all appear fresh. We are greatly pleased to say the *Carnations* are quite fresh. We also thank you for selecting such strong plants and for your liberal treatment. You cannot improve upon the system of packing with cocoa-nut

fibre, and the tins being strong do not get damaged in transit." This is a very good proof of what our skilled nurserymen can do in the way of packing. Mr. Cannell is proud of the letter, and well he may be.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

AMONG gardening charities the Gardeners' Royal Benevolent Institution occupies a foremost position, and it is no wonder that the fifty-third anniversary dinner, which took place at the Whitehall Rooms, Hotel Métropole, on Tuesday, November 15th, proved such a brilliant success. For upwards of half a century this splendid Institution has been carrying on its good work of rendering aid to aged and disabled gardeners and their widows, so that it has a strong claim upon the sympathy of all interested in horticulture. On the present occasion Lord Brassey, K.C.B., occupied the chair, and was supported by a large company, comprising about 150 gentlemen. Amongst others present were Lord Addington, Sir Trevor Lawrence, Bart., Sir J. Whitaker Ellis, Bart., Major-General Sherer, Major Sexby, Rev. W. Wilks, Messrs. H. J. Veitch, P. Crowley, W. Paul, N. Sherwood, H. E. Milner, W. H. Protheroe, J. Laing, A. W. G. Weeks, G. Bunyard, R. Cannell, and numerous other well known horticulturists.

Lord Brassey, after the customary loyal toasts, gave the toast of the evening—namely, "Continued Success and Prosperity to the Gardeners' Royal Benevolent Institution, now in its fifty-third year, coupled with the name of Mr. Harry J. Veitch, Treasurer." His Lordship said he would not trouble his hearers with a long speech, but would merely point out a few of the most important features of the Institution. The Society was a very old one, having been established in 1839, and made a small beginning. The income in the first year of its foundation was limited to the sum of £126. The object of the Institution was to provide pensions for men who had followed the occupation of a gardener, and who had been rendered incapable of earning their own living, also for their widows. When first instituted, the pensions were fixed at £16 for men and £12 for women, but since 1885 the scale had been raised to £20 and £16 respectively. The main feature of the Gardeners' Royal Benevolent Institution was that, while it administered to the relief of those who were in distress, it sought by every means in its power to inculcate the virtues of providence and economy. In 1851 the Queen and the late Prince Consort became the patroness and the patron respectively of the institution. Later on, in 1865, the Prince of Wales also kindly consented to become a patron. At the present time they had 156 pensioners, of whom seventy-nine were men and seventy-five women. These were maintained at a yearly expenditure of £2700. They would thus see that some good had been done, but the funds were still insufficient. Last year only fifteen were elected out of thirty-four candidates, and since then a large number of applications had been received. He therefore hoped that those present, and other donors, would do their best to increase the funds of the Society. In urging his hearers to extend their liberality to the Institution, his Lordship said he might appropriately appeal to their grateful recollections of the happy hours they had passed in gardens. England bore through all its length and breadth the marks of care and skill in its farms, its parks, and pleasant places, and in its innumerable gardens, both large and small. Shakespeare paid a tribute to gardening in some of his choicest lines. The debt they owed to those by whose labours so many scenes of enchantment had been created was great, and he hoped that debt would be in some degree repaid by their subscriptions that evening. (Cheers.)

Mr. H. J. Veitch briefly responded in appropriate terms, making a strong appeal on behalf of the Institution. He said that of late the Committee had had a very anxious time, and not very long ago it appeared doubtful as to whether they would be able to hold their anniversary gathering. But thanks to Lord Brassey and other donors they were able to do so. Regarding the aid given, the Committee would willingly increase the number of pensions were it in their power to do so. Those who had been elected as pensioners were very grateful for the sums they had received. The oldest pensioner now on the list was ninety-one years of age, and he had received assistance for nineteen years. In order to render as much assistance as possible they had kept down the working expenses of the Institution, having reduced them from 25 per cent. in 1888 to no less than 13 per cent. Still, much remained to be done. It was enough to "melt a heart of stone" to read some of the letters received. In January, 1891, eleven pensioners were elected, leaving fourteen unsuccessful ones; this year fourteen had been elected out of thirty-three candidates; and next year they expected to be only able to put eight on the list out of nearly forty applicants, unless the funds were considerably increased. He, therefore, hoped all who could would render assistance. Most of the cases were deserving of the greatest sympathy. One in particular he might mention. This was a gardener who, from the sting of a bee, had become totally blind, and he moreover had a wife and family depending on him for support. This, however, was not the only case of a blind gardener. The Committee thought some time ago that the rules of the Institution needed revision, which was being done, and he hoped it would meet the approval of all whom it concerned. The Institution had a Committee of whom it might be proud, and in Mr. G. J. Ingram, the Secretary, just the man that was wanted.

Lord Addington gave "The Royal Horticultural and Botanic Societies of London and the United Kingdom," and in doing so remarked that there was no dispute about the valuable services rendered by gardeners. Spring frosts, wireworm, and numerous other enemies had

to be battled with, but invariably gardeners were successful. Gardening, he said, had a great influence over the beauty and character of the country, and for that reason should be encouraged. There was no English landlord who did not look forward to planting, and he considered forming avenues a duty. More land, too, should be cultivated with fruit and other products, for last year we spent £2,000,000 in importations of this kind, comprising £1,000,000 in Apples and proportionate sums in Onions and Potatoes.

Sir Trevor Lawrence, Bart., in responding said he did not know where England would be if it were possible to imagine for a moment that the practical gardener were wiped out of existence. It was, therefore, the interest of such that they had to consider. He thought that the Royal Horticultural Society could claim to be the parent of all other societies. It may have made mistakes, but it had done good, and he ventured to say that in the last years of the present century the Royal Horticultural Society may fairly expect the respect and confidence of the horticultural world. In no year since 1887 had there been less than 265 Fellows elected. This year there would probably be 400 new Fellows. But having reduced the subscription the income of the Royal Horticultural Society did not increase proportionately, it now being about £3000. Out of this nearly £2000 were spent annually in maintaining Chiswick Gardens. It may be asked what did they give country subscribers in return for their subscriptions? Well, they gave them more than they generally anticipated. The copies of the Journal of the Society were disseminated widely, and he considered the report of the Conifer Conference, recently distributed, a most valuable work of reference. He thought the Royal Botanic Society did good in a particular way, and all who could ought to support the Gardeners' Royal Benevolent Institution. It was not supported so much as it should be. There was not anyone who owned a garden that did not derive pleasure from the work of his gardener. (Hear, hear).

The Rev. W. Wilks, M.A., in proposing "The Stewards and Donors," said that all who know him was aware of the warm interest he took in gardening. He considered the English gardener inferior to none, but superior to all in the world. (Cheers.) He thought that the income of the Gardeners' Royal Benevolent Institution might be increased considerably if the Committee were to draw up a proper circular and send it round to the clergy of the kingdom, asking for offertories made at harvest festivals at least every third year. He had adopted that plan this year, and although his was a tiny parish, with but little over 600 inhabitants, he had been able to hand £30 over to the Institution.

Mr. H. E. Milner briefly responded, and said that, thanks to a hard-working Executive Committee, the promoters of the recent International Horticultural Exhibition were able to give a donation of £250 to the Gardeners' Royal Benevolent Institution. (Cheers.) He was sorry they could not give more, but there were other gardening charities to be remembered.

Mr. N. Sherwood gave "Our Chairman" in suitable terms, and Lord Brassey briefly responded.

The Secretary, Mr. G. J. Ingram, announced that the result of the evening's subscription was £1400. This included Lord Brassey 50 guineas, Messrs. Rothschild 100 guineas, Baron Schröder 30 guineas, Mr. Howard Morley £25, Sir Julian Goldsmid 20 guineas, Rev. W. Wilks 30 guineas, Mr. Watkins 26 guineas, Mr. T. Manning 10 guineas, Mr. A. Weeks 10 guineas, and numerous other smaller sums. In commemoration of their silver wedding, Mr. H. J. Veitch and Mrs. Veitch have very kindly given £250 each.

A selection of music, under the direction of Mr. Herbert Schartau, enabled those present to pass a very pleasant evening.

ACIDANTHERA BICOLOR.

WE believe it to be the first time that this Iridaceous plant has been figured in the British floricultural press. *Acidantha bicolor* was discovered in 1844, and though generally known as a Cape bulb, it has, we believe, been found as far away as Abyssinia.

The bulbs are a little more than an inch across; the foliage is similar to that of a *Gladiolus*, while the spikes grow from 2 to 3 feet high. The flowers are borne loosely at the top of the spike, and are slightly pendulous, long and tubular; the perianth is spreading at the mouth of the tube, and in colour is creamy white, with markings of chocolate or brown. As the plant produces bulblets very freely, a stock can easily be raised; it may also be propagated from seed. There is nothing difficult about the cultivation of *Acidantha bicolor*. It requires similar treatment to that accorded to those species and varieties of *Gladiolus* which are usually grown in pots for late or early flowering.

In some parts of the United States it is largely grown, as plentifully as *Ixias* are grown in the south of England. A favourite mode of culture there is to place a number of flowering bulbs into small tubs or large pots, and these, when in bloom, are used for decorating the conservatory or greenhouse. The flowers are especially fragrant during the evening, which naturally gives them an additional charm. The plants from which our illustration (fig. 60), was taken, were flowering in the Cape house at Kew during the end of September and the beginning of October, and were in bloom about three weeks.—C. K.

CHRYSANTHEMUM SHOWS.

DEVIZES.—NOVEMBER 8TH.

THIS is a very popular Show, both with exhibitors and visitors. Liberal prizes are provided for the former, while in addition to the display of Chrysanthemums of superior merit there is also a very successful bazaar held, the charities of the town being greatly benefited thereby. Mr. T. King, the Castle Gardens, is responsible for all the arrangements connected with the Chrysanthemum Show, and everything in his hands passed off very pleasantly and smoothly.

No classes for trained plants are now provided, groups being the principal feature. This year only two of these were arranged. Mr. H. Clack, gardener to Major C. E. Colston, M.P., was well first, having a grand display of bloom, the second prize going to Mr. W. Mantell, gardener to W. Brown, Esq.

For twenty-four cut blooms of incurved varieties the first prize was £10, and this was easily won by the Messrs. W. & G. Drover, who had flowers of Emily Dale (2), John Doughty (2), Lord Wolseley (2), Golden Empress of India (2), Mr. Coleman, Lord Alcester (2), Princess of Teck, Nil Desperandum, Queen of England (2), Alfred Salter, Alfred Lyne, Miss M. A. Haggas, Prince Alfred, Violet Tomlin, M. Darrier (good), Mrs. Heale, Mrs. W. Shipman, and Jeanne d'Arc. Mr. G. Inglefield, gardener to Sir J. Kelk, was a good second; and Mr. W. Neville, gardener to F. W. Flight, Esq., third. Seven competed with twelve Japanese varieties.

The first prize, a silver cup value 5 guineas, went to the Messrs. Drover, who had very fine blooms of Vivand Morel, Florence Davis, Mrs. E. W. Clarke, Edwin Molyneux, Sunflower, Mons. Bernard, Mrs. Wheeler, Middle M. Hoste, Avalanche, J. S. Dibbin, M. E. A. Carrière, and Mrs. F. Jameson. Mr. Neville was a creditable second, his stand comprising J. P. Kendall, Beauty of Castlewood, Alberic Lunden, E. D. Adams, Masterpiece, Florence Davis, and Vivand Morel. Mr. W. Robinson, gardener to Lord Justice Lopes, was third. A remarkably fine bloom of Vivand Morel in the latter's stand was selected as being the finest bloom of Japanese variety in the Show; a bloom of Lord Alcester shown by Messrs. Drover, securing a similar award in the incurved section. Mr. H. Clack was first for Anemone flowered, and Mr. W. Robinson second; the last named being first for twelve incurved varieties shown as grown with foliage.

LEEDS PAXTON.—NOVEMBER 8TH AND 9TH.

THE third Show under the auspices of the above Society was held in the Victoria Hall. The earliness of the fixture and lateness of the season told somewhat heavily on the quality of the exhibits. This was especially noticeable in the incurved and cut bloom classes.

For thirty-six blooms, not less than sixteen incurved and sixteen Japanese, distinct varieties, there were four entries. The first prize, including a challenge cup, was awarded to W. Robinson King, Esq., Nelholme, North Ferriby, Brough (gardener, Mr. Hotham). Mrs. Cope, Dove Park, Woolton, Liverpool (gardener, Mr. Thos. Carling), was second; the Earl of Harrington, Elvaston Castle, Derby (gardener, Mr. J. H. Goodacre), third; and Mrs. Roundell, Gledstone, Skipton (gardener, Mr. J. Bell), fourth. The competition was very keen in this class, and many thought Mr. Carling's flowers at least equal to the winner. Mr. Hotham staged his flowers as follows:—Incurved, back row: Mons. Bahuant, Queen of England, Alfred Salter, Jeanne d'Arc, Queen of England, and Bahuant. Middle row: White Beverley, Lord Wolseley, Beauty of Hull, Prince Alfred, Ami Hoste, and Formosum alba. Front row: Lady Harding, Mr. Bunn, Camille Flammarion, White Venus, Mrs. Dixon, and Prince of Wales. Japanese, back row: Sunflower, Vivand Morel, Stanstead White, W. W. Coles, Sunflower, and Etoile de Lyon. Middle row: Edwin Molyneux, Miss H. Whellan, W. H. Lincoln, Bouquet des Dames, Vivand Morel, and Mrs. J. Wright. Front row: Madame Clemence Audiguier, Mons. Bernard, George Daniels, Thomas Stephenson, Middle Louise Leroy, Val d'Andorre. The best incurved flowers in Mr. Carling's stand were Mons. Bahuant, Emily Dale, Ami Hoste, Madame Mante, Refulgens; and of Japanese, Middle Marie Hoste, Vivand Morel were well staged.

For twelve incurved, distinct, the first prize was awarded to Mrs. Cope; second to W. Jackson, Esq., Knottingley Hall (gardener, Mr. W. Pearson). The flowers in the leading stand were staged as follows:—Back row: Lord Alcester, Queen of England, Ami Hoste, and Mons. Bahuant. Middle row: Alfred Lyne, Mr. Bunn, Nil Desperandum, and Jeanne d'Arc. Front row: J. Salter, White Beverley, M. F. Mistral, and Madame Mante. For twelve Japanese Mr. Hotham was placed first, Mr. Jos. Bell second, and Mr. Carling third. The first prize stand contained Stanstead White, W. W. Coles, Vivand Morel, Sunflower, Ed. Molyneux, Condor, Middle Louise Leroy, Mrs. H. Whellan, Thos. Stephenson, Mrs. C. Wagstaffe, and Gloire de Rocher.

The smaller classes were well filled, and a fine feature was the class for six blooms of one incurved, Mr. Hotham winning, Mr. Pearson being second. For six Japanese Mr. Hotham was first with fine Bouquet des Dames; second, Mr. Bell, with six magnificent Molyneux.

In the gentlemen's and amateurs' class, limited to a radius of seven miles, for twenty-four blooms, not less than twelve incurved and twelve Japanese, distinct, a silver challenge cup and £5 in cash was offered. The first prize fell to Mr. T. Newbould, gardener to A. Jacobs, Esq., Craig Royd, Rawdon. Sir Jas. Kitson, Bart., M.P. Gledhow (gardener, Mr. W. Grix), was placed second; third, Mr. J. Gordon, Esholt House, Woodlesford.

The classes for black and white Grapes were well filled with good

examples. Mr. Newbould won in both classes with Alicante and Muscat of Alexandria. The schedule included classes for vegetables, and brought forward a good competition. The principal prizewinners were W. Atkinson, Esq., Headingley, H. P. Bowering, Esq., and Sir Jas. Kitson, Bart.

Miscellaneous groups of plants arranged for effect were an attractive feature. The prizes fell to Mr. Sunley, nurseryman, Milford Junction, first; E. B. Faber, Esq., Stray Lea, Harrogate (gardener, Mr. W. Townhend second; and A. T. Lawson, Esq., J.P., Weetwood, (gardener, Mr. E. Morris) third.

Groups of Chrysanthemums arranged for effect were best shown by H. P. Bowering, Esq. (gardener, Mr. W. Moore) first; Mrs. Tetley, Fox Hill, Weetwood (gardener, Mr. J. Eastwood), second; and Mrs. Heaton, Clarendon, Leeds (gardener, Mr. G. Buck), third.

CHUDLEIGH.—NOVEMBER 8TH.

THE annual autumn Exhibition was held in the Town Hall on the date named, and although not remarkable for extent was for the quality of the exhibits.

Cut blooms of Chrysanthemums were the principal feature. The leading class was for thirty-six, half incurved, half Japanese, not less than twenty-four varieties. Four competed, the best coming from Mr. J. Stiles, gardener to Miss Fripp, The Grove, Teignmouth. Mr. Foster, gardener to H. Hammond Foster, Esq., Glendanaugh, Teignmouth, was second. Mr. H. Veale, gardener to the Rev. Sims, Newton Abbott, third, all staging creditably. For twelve Japanese Mr. Foster won easily; second Mr. Stiles. Mr. Abraham, gardener to Lord Clifford, Ugbrooke Park, Chudleigh, won the premier award for six Japanese, any one white variety, with full and fresh blooms of Avalanche. Mr. Stiles with the same variety was second. For six yellow Mr. Abraham repeated his previous success, staging grand blooms of W. H. Lincoln. Mr. Foster won first prize in the class for six any other colour with Vivian Morel. Mr. Stiles was second. Incurved blooms were best shown by the last-named exhibitor in twelve varieties, Mr. Foster following. The best Anemone blooms were staged by Mr. Foster.

In the classes devoted to the Chudleigh district, Mr. Abrahams won the premier awards for twelve Japanese, six Japanese, and six any one colour, with E. Molyneux, and for nine incurved distinct, also for six any one colour, with Princess of Wales.

The best group of Chrysanthemums was that from Mr. C. Shinner, gardener to Mrs. Bower Scott, Chudleigh—a creditable arrangement. In the miscellaneous group class Mr. Abraham was decidedly ahead of all others with an arrangement showing much taste. Mr. Blackmore, gardener to the Rev. Ford, Ideford, was second.

Mr. Foster gained first honour for the premier Japanese with Vivian Morel, and Mr. Stiles with Violet Tomlin in the incurved section.

Vegetables were, on the whole, most meritorious, the best collection coming from Mr. Abraham.

HORSHAM.—NOVEMBER 8TH AND 9TH.

THE third annual Exhibition was held at the Drill Hall on the above dates, and taken altogether it was a decided advance on that of last year.

The groups, of which five were exhibited, were exceedingly well done, and the judges, after a careful scrutiny, finally gave the premier award to Mr. S. Charman, gardener to Alfred Agate, Esq.; Mr. R. White, gardener to H. Padwick, Esq., being a very close second. Messrs. T. Vickress, W. Lintott, and W. Cattley followed in the order named.

The chief class for twenty-four Japanese, distinct, brought three competitors. Mr. T. Glen, Worth Park, was first with magnificent examples of the following: Coronet, Stanstead White, Sunflower, M. Bernard, Edwin Molyneux, Etoile de Lyon, W. H. Lincoln, Vivian Morel, Stanstead Surprise, Mrs. F. Jameson, W. Tricker, Sec. Gen. Cassagneau, Puritan, C. W. Wheeler, Avalanche, Florence Davis, Miss A. Hartzhorn, Alberic Lunden, Mdle. Lacroix, Vice-President Audiguier, Gloriosum, John Dyer, Val d'Andorre, and Louis Boehmer. Mr. Duncan, Warnham Court, was a good second; and Mr. Grace, Steyning, third. In the corresponding class for twenty-four incurved, not less than eighteen varieties, Mr. G. Goldsmith, gardener to Sir E. Loder, was first with fine deep solid blooms of Golden Empress (2), Queen of England (2), Lord Alcester (2), Empress of India (2), John Doughty (2), John Lambert, Empress Eugénie, Mrs. Shipman, Prince Alfred, Princess Beatrice, Alfred Lyne, Mrs. Heale, Miss M. A. Haggas, Barbara, Lord Wolseley, Mons. R. Bahuant, and Camille Flammarion. Mr. T. Sparkes, Wimblehurst, was a close second. Mr. Duncan was third. There were four entries in this class.

For twelve Japs, distinct, Mr. J. Pullen was first, Mr. F. Lane second, and Mr. E. Lawrence third.

For twelve incurved Mr. E. Lawrence was first, and Mr. J. Pullen second. Six Japs, Mr. T. Glen first, and Mr. G. Duncan second, Mr. F. Lane third. Messrs. Sparks, Glen, and Lawrence took the prizes for reflexed varieties, and Messrs. Pullen, Sparks, and Glen for Anemones in the order named. For six Japs, one variety, Mr. T. Glen was first with Avalanche; Mr. Pullen second with Avalanche; and Mr. Duncan third, with Ralph Brocklebank.

Trained plants were especially good. Mr. White beat Mr. Sparkes for four, the order being reversed for a single specimen, also for Pompons.

Fruit and vegetables were exceedingly good. The prizetakers for excellent Grapes were Messrs. Glen Kemp, Harris, and Le Pelley, and

for Apples and Pears Messrs. Goldsmith, Glen and Duncan. Messrs. Sutton's prizes for a collection of six varieties of vegetables brought



FIG. 60.—ACIDANTHERA BICOLOR.

seven fine exhibits, the awards being won by Messrs. T. Sparkes, G. Goldsmith, and H. Harris.

BIRMINGHAM.—NOVEMBER 8TH, 9TH, AND 10TH.

THE thirty-second annual Exhibition was held on the above dates, three days having been determined upon in the hope of raising a substantial sum for the General Hospital Building Fund.

Groups were well represented. Mr. Dyer, gardener to Mrs. Marigold, Edgbaston, was first in the class for large groups, but was closely followed by Mr. E. Jenkins, Oulton, as second, and others in rotation. Smaller groups were also set up, prettily arranged with foliage plants and Ferns. The specimen plants are always good at Birmingham, but this year they would have been all the better for a few more days. Mr. Waldron, gardener to George Cadbury, Esq., Selly Oak, was first for nine and six specimens respectively, and in other classes. Mr. Dyer also showed well.

The cut blooms were not so numerous as usual, but there was a decided gain in the quality and colour of the flowers. Mr. R. Parker of Impney was again the champion exhibitor, and also carried off the silver medal for excellence of culture in his twenty-four Japanese blooms especially. His first prize twenty-four incurved were John Doughty, Empress of India, Alfred Salter, Golden Empress, John Lambert, M. H. Bahuant, Queen of England, Lord Alcester, Mrs. Robinson King (a superb deep yellow), Princess of Wales, Mrs. Heale, Violet Tomlin, Princess of Teck, Mrs. Colman, Miss Haggas, Lord Wolesley, Alfred Lyne, Mrs. N. Davis, Lord Hardinge, Mrs. Shipman, Charles Gibson, Lord Eversley, Hero of Stoke Newington, and Jeanne d'Arc. Mr. Coombs, The Gardens, Hanley, was second; Mr. G. Bremmell, gardener to W. France Hayhurst, Esq., Wellington, third; and Mr. Morris, gardener to Sir Richard Moon, Bart., Coventry, fourth.

There were nine good exhibits in the class for twenty-four Japanese, and Mr. Parker was again first with very fine blooms of Madame C. Audiguier, W. W. Coles, Sunflower, Vivian Morel, Stanstead White, Gloire de Rocher, Boule d'Or, W. Tricker, Mohawk, Mdle. Marie Hoste, E. Molyneux, Ralph Brocklebank, Alberic Lunden, Golden Dragon, Florence Davis, Puritan, Avalanche, Mrs. F. Jameson, W. H. Lincoln, Baron de Prailly, Meg Merrilies, W. Woodcock, Thunberg, Mr. S. Henry; H. W. F. Hayhurst, Esq., was second; Mr. Coombs, third; Mr. Goodson, Elvaston, fourth. For eighteen Japanese Mr. Parker was again first with E. H. Beckett, R. H. Neve, and duplicates of others in his twenty-four. Mr. C. Crook, gardener to the Dowager Lady Hindlip, Droitwich, was second. Mr. Crook was first for twelve Japanese with Etoile de Lyon, Stanstead White, E. Molyneux, Florence Davis, W. H. Lincoln, Baron de Prailly, Avalanche, Vivian Morel, W. W. Coles, Sunflower, Gloire de Rocher, and Puritan. Mr. Hayhurst was second, and the Rev. W. D. Thatcher third. For twelve incurved the Earl of Denbigh was first. The various other classes were also well filled.

Primulas made an excellent display. In the open classes for twelve plants, Messrs. Pope & Sons, nurserymen, were first; and Messrs. Thomson & Co. second; whilst in the class for six plants the positions were reversed. In the class for six doubles, Mr. F. Denning, florist, was first with fine plants with very fine blooms; Messrs. Thomson, second; and Messrs. Pope & Sons, third. Stove and greenhouse plants were well staged, also a small group of Orchids from the Right Hon. J. Chamberlain, M.P.

Fruit is always a feature here; but on this occasion there was not so large a display as usual. Some excellent Grapes were staged. For six bunches of Grapes, Mr. Goodacre was first; Mr. Hollingsworth, gardener to J. F. Campbell, Esq., Uttoxeter second; Mr. Slade, Clumber, third. For three bunches of black Grapes, Mr. Bates, gardener to J. T. Harris, Esq., Stone, was first with Gros Colman. Mr. Waldron, gardener to G. Cadbury, Esq., was second. For three bunches of Muscats, Mr. Harman, gardener to the Earl of Denbigh, was first, Mr. Slade second, and Mr. Goodacre third. There were also other classes for Grapes. Mr. Slade was first for Pine Apples; he also staged not for competition four superb fruits of Charlotte Rothschild and Smooth-leaved Cayenne, for which a silver medal was awarded. Apples were best shown by Mr. Harman and Mr. Goodacre; and Pears by Mr. Parker and Mr. St. Vincent Ames.

Vegetables were excellent. Messrs. Thomson & Co. offered liberal prizes, and there was a large number of entries; Mr. Smeetham, Shrewsbury, was first with a very fine collection. Mr. Robert Sydenham also offered good prizes, and here again was a good display. Mr. Smeetham secured the first prize, which included a gold medal. Messrs. Sutton and Sons gave liberal prizes for collections, as also did Messrs. Webb and Sons. Mr. Smeetham was first in both classes. His productions were of first-class quality.

Messrs. Thomson & Co. staged a fine display of vegetables, a large group of plants, and obtained certificates for two handsome new Chinese Primulas—Princess May and Duke of York. Messrs. Dicksons (Limited) showed their new Fern—*Adiantum capillus-Veneris imbricatum*; Mr. Watkins, Hereford, a fine collection of Apples; Messrs. Pope & Son, a splendid memorial design and group of plants; Mr. Denning, a group of plants; Messrs. Hewitt & Co., a fine lot of Begonias; and Mr. Sands, Harborne, an interesting group of alpine plants.

A certificate of merit was awarded to Mr. Godfrey, Exmouth, for three blooms of his Beauty of Exmouth Chrysanthemum. Mr. Robert Owen, Maidenhead, sent blooms of some of his new varieties and seedlings on the second day, too late for the Judges.

TORQUAY.—NOVEMBER 9TH.

THE annual Exhibition of the Torquay Horticultural Society was held as usual in the Bath Saloons, and in every way proved a success. Cut blooms were the most important feature, these being staged in large

numbers and of good quality. The principal class was for thirty-six varieties, half Japanese and the remainder incurved, for which a silver cup was offered as first prize. Mr. J. Stiles, gardener to Miss Fripp, The Grove, Teignmouth, was a good first with a heavy stand of Japanese and medium-sized but neatly finished incurved. The varieties were—Japanese: Vivian Morel, W. H. Lincoln, Avalanche, Etoile de Lyon, Stanstead White, Madame J. Laing, Florence Davis, Edwin Molyneux, Puritan, Condor, Sarah Owen, Pelican, M. Bernard, Madame Bacco, W. W. Coles, Belle Paule, A. H. Neve, and Gloire de Rocher. Incurved: Violet Tomlin, Empress of India, Miss Haggas, Jeanne d'Arc, Lord Wolesley, Princess of Wales, Golden Empress, Alfred Salter, Mrs. Heales, Prince Alfred, Matthew Russell, Lady Hardinge, Queen of England, M. R. Bahuant, Golden Queen of England, Refulgens, Baron Beust, and Lady Dorothy. Mr. G. Foster, gardener to H. Hammond Spencer, Esq., Glendanaugh, Teignmouth, was second with good Japanese blooms, but smaller incurved, all well staged. Mr. F. Prothero, gardener to W. McKenzie Bradley, Esq., The Elms, Exmouth, was third. The best twelve incurved were staged by Mr. Stiles, a neat stand. Mr. H. Vcale, gardener to the Rev. A. H. Simms, Wolborough Rectory, was second.

Japanese in twelve varieties made a good display, Mr. Foster winning after a close fight with Messrs. Beachey & Co., Kingskerswell. So good were the first prize stand of blooms that we give their names. Etoile de Lyon, Mrs. F. Jameson, W. Tricker, E. Molyneux, Stanstead White, Vivian Morel, Gloire de Rocher, Florence Davis, Puritan, Wm. Lane, Sarah Owen, and Eynsford White. Mr. J. Stiles was third.

Six reflexed, distinct, were best staged by Mr. Stiles. Mr. F. Prothero staged the best six Anemones, and very fine they were. Such sorts as Delaware, Miss Annie Lowe, and Grand Alveole were well represented. Messrs. H. Veale and Foster were second and third. Mr. Satterly, gardener to Mrs. Matthews, Braddon Villa, Torquay, was an easy first for six Anemones, one variety, with Mrs. Judge Benedict fully developed. Mr. Prothero was second with Lady Margaret. Mr. Satterly won the premier honour for six of any one reflexed kind with Cullingfordi. Mr. Foster was again successful in the class for six Japanese, any one sort, with grand specimens of Eynsford White, Mr. Stiles following with Avalanche. Mr. A. Searle, gardener to Miss Boyd, Gnaton, Torquay, was first with six yellows of one variety, with richly coloured W. H. Lincoln. Messrs. Beachey staged medium sized but fully developed blooms of W. Tricker in the class for any other coloured Japanese. Mr. F. Ferris, gardener to J. W. Kimber, Esq., Tracey, Cockington, won with twelve Avalanche in a class for any variety.

Groups of Chrysanthemums were well shown. For one in a circle of 7 feet diameter, to contain not less than eighteen varieties, Mr. S. Casely, gardener to Miss Croydon, Heathfield, Torquay, was first with grandly grown plants, effectively arranged. Mr. Satterly was second; and Mr. C. Alder, gardener to W. B. Fortescue, Esq., Oton, Torquay, third. Groups of miscellaneous plants were also well shown by Mr. Satterly and Mr. J. Slowman, gardener to Captain Fane Tucker, Braddon Villa, Torquay.

Messrs. R. Veitch & Sons, Exeter, had a grand collection of fifty dishes of Apples not for competition, and Messrs. Curtis & Sandford a good group of Chrysanthemums, which added considerably to the attractiveness of the Exhibition.

CIRENCESTER.—NOVEMBER 9TH.

THE second Exhibition of this Society was a distinct improvement on that held last year, and was in every respect a great success. All the arrangements were admirably carried out by the Honorary Secretary, Mr. H. Frank Sare, and an efficient Committee.

Groups of Chrysanthemums, and with which it was stipulated should be arranged a variety of fine-foliaged plants and Ferns, were quite the feature of the Show. Unfortunately nothing was mentioned as to effect being a strong point, or the decisions of the judges might have been altered somewhat. Mr. T. Arnold, gardener to Earl Bathurst, was first, he having really excellent Chrysanthemums, but stiffly arranged, a fine Kentia in the centre and other foliaged plants not offering sufficient relief. Mr. D. Elkins, gardener to A. Cator, Esq., was second, the third prize going to Mr. H. R. Saunders, gardener to J. Taylor, Esq. Very good also were the smaller groups, and in this instance Mr. T. Painter, gardener to C. Green, Esq., was well first. Mr. W. Larner, gardener to J. Hyde, Esq., was a good second, and Mr. H. Duffin, gardener to H. Van Notten Pole, Esq., third.

Trained plants were not numerous. The best six were shown by Mr. J. Bastin, gardener to Mrs. G. Holloway, Slough. Mr. O. Orpet, gardener to the Misses Brown, was a good second. The last named was well first for three incurved varieties, and second for a like number of Japanese sorts, the first prize in the last-named class being awarded to Mr. C. Smith, gardener to E. J. Evans, Esq. The first prize for the best specimen plant also carried with it the silver medal of the National Chrysanthemum Society, and this was won by Mr. O. Orpet, who showed a well-flowered plant of La Triomphante. Mr. H. S. Saunders was second, and Mr. W. Taylor, gardener to T. W. C. Master, Esq., third.

Cut blooms were largely shown, but not a few of them gave signs of being too late for the show. The best thirty-six blooms, to consist of equal numbers of incurved and Japanese varieties, were shown by Mr. C. Mayo, gardener to A. Apperley, Esq., Stroud, who had incurved John Doughty, Empress of India, Princess of Wales, Lord Alcester, Lord Wolesley, John Salter, Golden Empress, Camille Flammarion (rough and ugly), Queen of England, Mrs. Coleman, Jeanne d'Arc, Mabel Ward, Madame Parrier, Jardin des Plantes, Alfred Salter, and Princess of Teck; Japanese Sunflower, Vivian Morel, Stanstead White, Edwin Molyneux, Pelican, Etoile de Lyon, Madame C. Audiguier,

Avalanche, Countess Beauregarde, Mdle. M. Hoste, Stanstead Surprise, Golden Dragon, Maiden's Blush, Thunberg, Puritan, Mr. H. Cannell, Florence Davis, and Mons. J. A. Laing, all, with one exception named, in good condition. Mr. R. Fawkes, gardener to C. Hooper, Esq., was second. In the local class for twenty-four blooms, equal number of incurved and Japanese varieties, Messrs. D. Elkins and G. Price were equal first, both having very even creditable stands, the third prize going to Mr. C. Smith, gardener to Mrs. Evans. Mr. G. Price was first for twelve incurved, his best being Lord Alcester, Queen of England, Prince Alfred, Mrs. Shipman, and Princess of Wales.

With twelve Japanese varieties Mr. G. Price was well first, having among others good blooms of Sunflower, Edwin Molyneux, Avalanche, Val d'Andorre, and Madame C. Audiguier. Mr. D. Elkins was second, and Mr. Bignell third. The competition with six blooms was very close and good. Mr. W. Taylor was first, and Mr. F. Esell, gardener to E. A. Leatham, Esq., second. Very fine also were the stands of one variety. Mr. G. Price was first with E. Molyneux, Mr. D. Elkins second with Vivand Morel, and Mr. Bignell third with Sunflower. Mr. Elkins was the most successful exhibitor in the classes for reflexed, Anemone flowered, and Pompons.

Great interest was taken in the classes for vases, baskets of flowers, and autumn foliage and berries, in which ladies successfully competed. Grapes, Apples, and Pears were also well and extensively shown.

HORNSEY.—NOVEMBER 9TH AND 10TH.

THE members of the Hornsey and District Chrysanthemum Society have just cause to be proud of their third annual Exhibition, which was held in the National Hall on the above dates. It was the best and most effectively arranged local Show we have seen this season. The cut flowers, moreover, could compare favourably with those staged at many larger exhibitions, and the same may be said of the groups.

The principal class was for twenty-four incurved blooms in not less than eighteen varieties, and the premier award was secured by Mr. E. Rowbottom, gardener to H. R. Williams, Esq., The Priory, Hornsey. The flowers in this stand were superb. Among other varieties staged, Empress of India, Golden Empress, Queen of England, Lord Alcester, A. Salter, Madame Darrier (very fine), and Mr. Brunlees were most conspicuous. Mr. J. L. Turk, gardener to E. Boney, Esq., Highgate, was first with twelve incurved, showing neat and well developed blooms. Mr. Rowbottom was first with six incurved varieties, distinct, showing Barbara, John Lambert, Empress of India, Alfred Salter, Golden Empress, and Princess of Wales in splendid condition. For six incurved blooms of one variety Mr. Rowbottom was again first with a splendid stand of Golden Empress.

Japanese varieties were really magnificent. In the class for twenty-four blooms Mr. Rowbottom secured the first prize with splendidly grown flowers. We have never seen better at a local show. The varieties staged were Golden Empress, Gloire de Rocher, Etoile de Lyon, Beauty of Castlewood, Miss Marian Throver (good), Alberic Lunden, Florence Davis, W. Tricker, Boule d'Or, E. Molyneux, Mdle. Marie Hoste (grand), Mdle. Eugénie Mulson, Vivand Morel, Puritan, Lord Brooke, J. Stanborough Dibben, Hamlet, Col. B. Smith, Miss Lily Measures, Felix Cassagneau, Mohawk, Condor, and Coronet. Mr. J. Brookes, gardener to W. Reynolds, Esq., The Grove, Highgate, was second. Mr. Northover, an amateur grower, secured the first prize for twelve Japanese in the open class with a creditable exhibit. Mr. J. L. Turk was second. The best six Japanese blooms of one variety were shown by Mr. Rowbottom, who had superb examples of Mdle. Marie Hoste. One bloom of this was of gigantic proportions and perfect symmetry, justly meriting the certificate awarded for it. Mr. Brookes was second with Avalanche. Pompons were likewise well shown by Mr. Rowbottom, and amongst others we noticed grand blooms of Harry Hicks, a new variety of a rose pink colour with gold tips. Mr. J. L. Turk was second in this class. Mr. Rowbottom also had the best large flowering Anemones, which included Deleware in first-rate condition.

Groups made a charming display, they being arranged on each side of the hall. Mr. Rowbottom was first in the open class with well-grown plants carrying magnificent blooms most effectively arranged. Mr. N. Neary, gardener to the Rev. W. Powell, Holy Innocents, Hornsey, was second with an excellent group. The groups in the amateur classes were also first-rate, and the same may be said of the cut blooms. Trained plants were best shown by Messrs. Brookes and Neary.

Mr. C. W. Cousins, High Street, Wood Green, sent a group of miscellaneous plants. Primulas and Zonal Pelargoniums were also well represented, and the bouquets and table decorations made an imposing display.

Fruit was well represented, some excellent Grapes, Pears, and Apples being staged by Messrs. Rowbottom, Cowland, W. Wilkinson, A. Heale, W. Ward, and G. Amos.

BATH.—NOVEMBER 9TH AND 10TH.

ALTHOUGH in many respects a very excellent Show, there was a marked falling off in the number and quality of trained plants. The best four specimens of large flowered varieties were shown by Mr. C. Trimby, gardener to Miss Maitland, Mr. R. B. Cater being a close second. With four Japanese varieties Mr. J. Southard, gardener to W. J. Brown, Esq., was first, the second prize going to Mr. W. Davis, gardener to Dr. Budd, and the third to Mr. R. B. Cater. For three standards Mr. C. Trimby was well first, having Roseum superbum, Mrs. Rundle, and Mdle. Lacroix in good condition. For a single specimen the judges had no difficulty in awarding the first prize and also the silver

medal of N.C.S. to Mr. S. Kerslake, gardener to the Rev. E. Handley, who exhibited a magnificent plant of Mrs. Rundle, 6 feet through, and carrying about 200 very good blooms. Mr. T. J. Tate, gardener to W. Pumphrey, Esq., was second, and Mr. J. Southard third. Mr. R. B. Cater had the best pyramid. Banks of Chrysanthemums were never better at Bath, and are seldom surpassed anywhere. Mr. S. Kerslake was first, his plants being good as regards foliage and blooms. Mr. W. Davis was second, and Mr. J. Southard third.

Miscellaneous plants are always of superior quality at these Shows, and were fully up to the usual standard on this occasion. The best group was arranged by Mr. Tate, Messrs. Cole & Sons being the most successful with fine-foliage plants, while for Primulas the prizes were well won by Messrs. C. Fisher, J. Ward, Jerome Murch, and E. Hall. Mr. W. Fidler, gardener to Baron C. de Tuyl, Chipping Sodbury, was well first for Poinsettias. Mr. J. T. Holmes was first for three Orchids.

Cut blooms were largely shown. The first prize for twenty-four Japanese varieties went to Mr. P. Mann, gardener to W. H. Laverton, Esq., who had large blooms of R. Brocklebank, Mrs. Wheeler, A. H. Neve, W. G. Drover, Alberic Lunden, W. H. Lincoln, Carew Underwood, Sunflower, Mons. G. C. Schwabe, Etoile de Lyon, E. Molyneux, F. Davis, Boule d'Or, Stanstead White, Coronet, Baron de Prailly, W. W. Coles, Excelsior, Condor, Fimbriatum, Mrs. F. Jameson, Kioto, E. Lonsdale, and Madame Baco. Some of the blooms in this stand were past their best. Mr. W. Iggulden, gardener to the Earl of Cork, was second for a stand of fresh blooms, the best among which were Vivand Morel, Mrs. Jameson, W. H. Lincoln, W. Tricker, Mr. J. Clark, and G. Daniels. Mr. W. Robinson, gardener to Lord Justice Lopes, was a good third, the Vivand Morel in his stand being selected for the award of a silver medal offered for the finest bloom in the Show. Five others competed. The class for twelve Japanese varieties was also well filled, and with these Mr. Holbrook, gardener to Mrs. Beddoes, was first, some of his best being G. Daniels, Vivand Morel, W. Lane, W. H. Lincoln, Stanstead White, and Mdle. Marie Hoste. Mr. Robinson was second. Mr. J. A. Martin was first for six blooms, and Mr. J. D. Willis second. The first prize for six new varieties was awarded to Mr. Robinson, who had Vivand Morel, W. K. Woodcock, Florence Davis, Gloire de Rocher, Marie Hoste, and E. W. Clark in good condition.

The large flowered varieties were not first class. The first prize for twenty-four blooms was won by Mr. Robinson, who had medium sized neat blooms of Mrs. Forsyth, Golden Empress, Jeanne d'Arc, Beauty, Cullingfordi, John Salter, Empress Eugénie, Mrs. N. Davis, Golden Queen of England, Ami Hoste, J. Doughty, Queen of England, Princess of Teck, Golden Christine, Lord Wolseley, Miss Haggas, Venus, Robert Cannell, Violet Tomlin, and Cherub. Mr. John Baylis was second, and also first for twelve varieties in which class Mr. Robinson was second. Mr. Robinson was the only exhibitor of Anemone flowered varieties, and was awarded the first prize. Grapes were superbly shown. Mr. W. Taylor, gardener to Alderman Chaffin; Mr. W. Nash, gardener to the Duke of Beaufort; Mr. G. Pymm, gardener to Mrs. Gould-Smith, and Mr. T. Jones, Bath, took the leading prizes. Mr. W. Nash was first, as usual, with a collection of fruit, Mr. Pymm being second. Pears were very well shown, the most successful exhibitors being Messrs. Dunn, J. Lloyd, gardener to Vincent Stuckey, Esq., J. Jones, and W. Nash. Apples were exceptionally numerous and well shown, the colour throughout being remarkably good. Messrs. Evry, Dunn, Fisher, Hooper, and G. Garraway were the leading prize-winners.

SOUTH SHIELDS AND NORTHERN COUNTIES.

NOVEMBER 9TH AND 10TH.

THE above Show was held in the Royal Assembly Hall, South Shields, and was not so satisfactory to the promoters as they deserved. To popularise their Show the Committee increased the prizes by £10 this year, and, not to clash with the other great northern Show, held it a fortnight earlier. This seems to have been their only mistake. The entries were short of last year, but the quality of the exhibits in most cases were superior.

Incurved blooms were most conspicuous by their absence, but the Japanese were better than any ever shown at South Shields.

For thirty-six Japanese, eighteen varieties, Mr. Peter Blair, Trentham, was a good first. The blooms were large, fully developed, and well coloured. The best blooms were Alba, Gloire du Rocher, George Daniels, Coronet, Vivand Morel, Sunflower, Mdle. Marie Hoste, Avalanche, G. C. Schwabe (fine), Fimbriatum, Bouquet des Dames, Etoile de Lyon, Miss Oswald, Louis Boehmer, Madame Laing, Richard Nesbit, Sunflower, Stanstead White, and M. F. Spalding. Mr. Thos. Wheeler, gardener to C. Mitchell, Esq., Jesmond Towers, Newcastle, was second with smaller flowers, but good. The best blooms were Vivand Morel, W. G. Clark, Condor, E. Molyneux, Stanstead Surprise, La Triomphante, and Mrs. F. Jameson. Mr. Geo. Smith, Hull, was third.

For eighteen Japanese Mr. Blair was also first. They were equal if not better than the stand of thirty-six. The best blooms were Vivand Morel, Coronet, Avalanche, Gloire de Rocher, G. Daniels, Sarah Owen, Sunflower, Louis Boehmer, Etoile de Lyon, Avalanche, Madame Laing, Stanstead White, W. H. Lincoln, and Mons. Wm. Holmes. Mr. Geo. Walker, gardener to J. White, Esq., Cedars, Low Fell, was second; and Mr. D. P. Bell, Clive House, Alnwick, was third. For twelve Japanese, Mr. Thos. Wheeler was first; his stand included good flowers of Vivand Morel, Etoile de Lyon, and Edwin Beckett. Only one stand of incurved was staged by Mr. Thos. Wheeler, this being awarded second prize.

For twelve bunches of Pompons Mr. Geo. Smith was first, and for

twelve Anemone-flowered Chrysanthemums Mr. P. Blair was first, very large fine shaped flowers, and in addition was awarded the certificate of the National Chrysanthemum Society. The varieties included Gladys Spalding, Tubal d'Argent, M. Judge Benedict, Prince of Anemones, Superb, and Solare de Soleil.

Mr W. J. Godfrey, of Exmouth, staged blooms of Beauty of Exmouth, for which the judges awarded a special certificate of merit.

Hand bouquets and epergnes were really good. Mr. Peter Blair was first for a bouquet, including a neat assortment of good flowers tastefully arranged. Mr. Wm. East was first for the bridal bouquet, containing the usual white flowers. For a drawing-room epergne and Chrysanthemum epergne, Mr. Geo. Webster, the Market, Sunderland, was first in each class. For ladies' sprays Messrs. R. Gibson & Son, Sunderland, were first in two classes. Twelve buttonhole bouquets were best staged by Mr. Thomas Battensby, Blaydon.

Fine groups of Chrysanthemums and other foliage plants were staged. Mr. Charles Burton, Middlesborough, was first. The Chrysanthemums were good, the individual flowers being large, and the base was well toned with fine coloured Crotons and Dracenas. The judges also awarded the National Chrysanthemum Society's certificate to this group.

Specimen plants, although hitherto shown at this Exhibition in good form, were deficient, owing to the lateness of the season. Table plants were fine. Mr. Thos. Wheeler was adjudicated first.

Ten dishes of black Grapes were staged, and Mr. J. Wood, gardener to E. Hopper, Esq., Riverside, Morpeth, secured the first prize and a silver medal with finely finished Black Alicante bunches; Mr. D. J. Bell was second with Alnwick Seedling; and Mr. Jas. Witherspoon, Chester-le-Street, third. Mr. Jas. McDonald was first with white Grapes with Muscat of Alexandria. Four lots were staged. A word of praise is also due to the staging Committee, Messrs. Wood and Robson, for making the best of the exhibits at their disposal, and there is no doubt that in future this Exhibition will increase in importance and excellence of exhibits.

MARKET HARBOROUGH AND DISTRICT.—NOV. 9TH AND 10TH.

THE seventh annual Show of this Society was held in the Corn Exchange, Market Harborough, on the above dates, and proved a very meritorious and attractive display.

The first prize for thirty-six cut blooms, eighteen Japanese, distinct, and eighteen incurved, not less than twelve varieties, was won by Mr. Dunkley, gardener to S. Symington, Esq., Market Harborough, with very fine flowers. The varieties were—Japanese: Vivian Morel, Stanstead White, Edwin Lonsdale, Gloire du Rocher, Etoile de Lyon, Sunflower, R. Brocklebank, W. Tricker, Boule d'Or, Mrs. J. Wright, Criterion, Madame C. Audiguier, Belle Paule, Wm. Lane, Avalanche, Mons. Bernard, Madame J. Laing, and Miss A. Hartzhorn. Incurved: Empress of India (2), Golden Queen (2), Lord Alcester (2), Queen of England (2), J. Doughty, Golden Empress, Lord Wolseley, Alfred Salter, Violet Tomlin, John Salter, Princess of Wales, Prince Alfred, Jeanne d'Arc, and Hero of Stoke Newington. Mr. Wm. Duncan, gardener to Lady Lisgar, was second; and Mr. Geo. Mackinlay, gardener to Sir Chas. Isham, Bart., third.

For twelve incurves Mr. Dunkley was first and Mr. Wm. Duncan second, and for twelve Japs the same exhibitors were placed equal.

Several excellent groups were arranged. One comprising Chrysanthemums interspersed with foliage plants was very fine indeed, and was greatly admired. The exhibitor of this was Mr. Wm. Duncan. For a group of Chrysanthemums arranged for effect Messrs. Plowman & Son, Market Harborough, were first.

The classes for plants of Chrysanthemums were not very keenly contested. Mr. H. Dunkley showed a James Salter, very finely flowered, and Mr. C. Bushell had Val d'Andorre. The same exhibitors were also placed first in each of the classes for single specimens of reflexed, Pompon and incurved varieties. Mr. J. Battam also showed good specimens, including a very fine plant of Mons. Wm. Holmes.

BARNESLEY.—NOVEMBER 9TH AND 10TH.

THIS Exhibition was held on the above dates, and was a decided improvement on those of previous years. The chief prizes were awarded as follows:—For twenty-four varieties, twelve incurved and twelve Japanese, distinct, R. Brocklebank, Esq. (gardener, Mr. Jas. Vaughan), The Hollies, Woolton, Liverpool, secured first honours with a fine even stand of blooms. The varieties shown were, incurved: Queen of England, Mons. R. H. Bahuant, Emily Dale, Lord Alcester (2), Golden Empress, Empress of India, Alfred Salter, Princess of Wales, Violet Tomlin, J. Salter, and Lord Wolseley. Japanese: Vivian Morel, Stanstead White, Sunflower, Mons. Bernard, E. Molyneux, Gloire de Rocher, Belle Paule, W. H. Lincoln, Mdle. M. Hoste, Avalanche, Florence Davis, and W. W. Coles. Mrs. Jones, Elmsal Lodge (gardener, Mr. Dunn), was a good second; and A. Alderman, Esq., was third.

For twelve reflexed Lord Halifax (gardener, Mr. Wainman) was placed first; and C. H. Simpson, Esq. (gardener, Mr. Thos. Ketcheld), second. For twelve large-flowering Anemones, not less than six varieties, Mr. J. Vaughan was first; Mr. Thos. Ketcheld second; Mr. Wainman third. For a hand bouquet of Chrysanthemums Mr. Jas. Vaughan was first; Mr. J. Austin, Stancross, second; and Mr. R. Creighton, Hemsworth, third.

For twenty-four cut blooms, twelve incurved, twelve Japs, open to district exhibitors, the first prize £3 and silver challenge cup, offered by A. K. Kells, Esq., one of the Vice-Presidents of the Society, was won for the second year in succession, and thus becomes his absolute property, by

G. J. Burnley, Esq., Birthwaite Hall, Darton (gardener, Mr. A. Popplewell). Mr. C. Fevers, a local amateur, ran him a very close second; Mr. T. Goodyear being third.

In the fruit classes Colonel Stanhope, Cannon Hall (gardener, Mr. E. Clarke), was first for two bunches of black Grapes, Gros Colman; Mr. Ketchell was second; and A. Wilson, Esq., Tranby Croft, Hessle (gardener, J. P. Leadbetter), third. For white Grapes, Mr. Leadbetter was first; Mr. Ketchell second; and Mr. Clarke third.

WESTON-SUPER-MARE.—NOVEMBER 10TH.

THIS Exhibition was undoubtedly the best held in the neighbourhood. Mr. W. H. Vanes is the efficient Honorary Secretary, and the Committee comprises amateurs as well as working gardeners.

Specimen plants were the feature of this display. The first prize for six large flowering varieties was awarded to Mr. W. Daffurn, gardener to Donal Cox, Esq., who had moderately large neatly trained specimens carrying good foliage and blooms. Mr. C. Holland, gardener to W. Ash, Esq., was a good second, and Mr. W. Brooks third; the latter's plants not being quite forward enough. For four varieties, Mr. G. Sutton, gardener to W. A. Todd, Esq., was an easy first, Mr. G. Lambert being second, and Mr. A. J. Young third. With six specimens of Japanese varieties Mr. Holland was well first, having globular trained plants about 5 feet through, and beautifully flowered. Mr. W. Brooks was a close second, and Mr. Daffurn third. With four varieties Messrs. G. Sutton, G. Lambert, and J. Young won the prizes in the order named. Mr. Daffurn was first with specimen Pompons; Mr. Holland a close second, and Mr. Brookes third. Mr. Daffurn had the best standards, followed by Mr. Holland. The specimen selected as being the best in the Show was a very finely flowered plant of Mrs. Glenney shown by Mr. W. Brooks. Groups of Chrysanthemums were fairly good, and slightly better than usual. Mr. H. Whitehead, gardener to R. W. Gibbs, Esq., was well first, Mr. W. Brooks second, and Mr. G. Sutton third. Miscellaneous plants were well shown.

Cut blooms were quite up to the average, most of the classes being well filled. The best twenty-four incurved blooms, in not less than eighteen distinct varieties, were shown by Mr. J. B. Payne, gardener to the Lord Bishop of Bath and Wells, who had Alfred Salter, John Lambert (2), Queen of England (2), Empress of India, John Doughty (2), Violet Tomlin (2), Robert Cannell, Lord Alcester, Robert King, Miss Haggis, Jeanne d'Arc, Lord Wolseley, Princess Beatrice, Mrs. Shipman, Princess of Wales, Lady Hardinge, and Mrs. Heale. Mr. W. Carpenter, Clifton, was second, and Mr. Brooks third. In the corresponding class for Japanese varieties Mr. Carpenter was first, having Etoile de Lyon, Conдор, W. Tricker, W. H. Lincoln, Volunteer, Vivian Morel, Mons. Bernard, Sunflower, G. Daniels, Stanstead White, Mr. J. Clarke, Avalanche, Madame Rocher, M. J. Pigny, W. W. Coles, Puritan, L'Or Japon, A. H. Neve, Gloriosum, Florence Davis, E. Molyneux, Mdle. Lacroix, Belle Paule, and Miss M. Thrower, all good. Mr. J. B. Payne was a creditable second, Mr. Wm. Brooks third. The first prize for twelve varieties went to Mr. A. Currey, gardener to C. Bailey, Esq., Frome, who had W. H. Lincoln, E. Molyneux, W. W. Coles, Etoile de Lyon, Sunflower, A. H. Atkinson, Cleopatrie, G. Daniels, Avalanche, Madame Laing, Mrs. J. Clarke, and C. Sharman, fresh and good. The names of other prizewinners in this and other classes could not be got at, owing to the crowd. Baskets of autumn foliage were remarkably good. Mr. W. Brooks was first in this class, and also with epergnes and bouquets of choice flowers.

Fruit, notably Grapes, Pears, and Apples, were extensively and well shown, local men holding their own against growers from a distance.

ASCOT (No. 2).—NOVEMBER 10TH.

THIS newly formed Society held a remarkably good Exhibition for the first, all sections being exceedingly well represented. Mr. Hoddinott, the Hon. Secretary, deserves praise for his management in the initiative venture, everything worked smoothly.

Cut blooms were staged in large numbers, and were of good quality. The principal class was that for thirty-six distinct, half to be incurved and the remainder Japanese. Mr. A. Sturt, gardener to N. L. Cohen, Esq., Round Oak, Englefield Green, was a decided first, his incurved blooms being large, bright, and well set up, whilst the Japanese were heavy and bright. The names were:—Incurved: Queen of England, Prince Alfred, Empress of India, Golden Queen of England, Violet Tomlin, Golden Empress, Princess of Wales, Lord Alcester, John Salter, Mrs. S. Coleman, Miss M. A. Haggas, Lord Wolseley, Mrs. W. Shipman, Nil Desperandum, Charles Gibson, Princess Teck, Baron Beust, and Barbara. Japanese: Vivian Morel, Stanstead Surprise, Sunflower, Stanstead White, Coronet, Madame C. Audiguier, E. Molyneux, Holborn Beauty, Val d'Andorre, Etoile de Lyon, Gloire de Rocher, Fair Maid of Guernsey, Meg Merrilies, Madame Laing, W. H. Lincoln, Sarah Owen, M. Bernard, and Madame Bacco. Mr. J. F. Thorne, gardener to Major Joicey, Sunningdale Park, Ascot, was second, and Mr. Buckingham, grower to F. Ricardo, Esq., The Friary, Old Windsor, third. Mr. Sturt followed up his previous success by winning the first prize for twenty-four incurved, with blooms similar to those in the principal class. Mr. Buckingham was second. Mr. G. Lane, gardener to Miss Ridge, Highfield, Englefield Green, won the premier award for twelve incurved, distinct with quite the best stand in the Show, the blooms not extra large, but solid, fresh, and well staged. Mr. H. Popple, gardener to the Hon. Lady Cowell Stepney, Wood End, Ascot, was second; and Mr. W. Skcet, gardener to Sir H. D. Gooch, Bart., Clewer Park, third.

In the class for twenty-four, distinct, Japanese, there was a spirited

competition, Mr. Buckingham winning rather easily with a most meritorious stand of blooms of leading varieties. Mr. Sturt was a good second. Mr. F. Thorne won in the class for twelve Japanese, distinct, with a meritorious stand. Mr. G. Lane, was second; and Mr. Lindsay, gardener to Duchess of Buccleuch, Ditton Park, third. Anemone varieties were best staged by Mr. Sturt, who won with twelve blooms. This exhibitor was first for six Japanese, any one variety, with solid blooms of Avalanche.

Specimen plants were remarkably well shown by Mr. Lindsay, huge plants, quite 5 feet in diameter, and carrying over 200 blooms. Mr. Skeet was second with much smaller plants. Groups of Chrysanthemums made a bright display, being arranged on each side of the room. The best in the open class was that from Mr. Lindsay, the plants being dwarf, well clothed with foliage, and carrying good blooms. Mr. Lovejoy, gardener to F. Baxter, Esq., Datchet, was second.

Mr. Thomas, from the Royal Gardens, Frogmore, had, not for competition, a very fine group of Chrysanthemums, which were much admired.

BIRKENHEAD AND WIRRAL.—NOVEMBER 10TH.

THE sixth annual Exhibition of Chrysanthemums and fruit was a perfect success in every way. Mr. Tunnington, one of the judges, said that it was the fifth show he had helped to judge this season, and it was far in advance of the others.

In the open class for twenty-four Japanese Mr. George Burden, gardener to George Cockburn, Esq., Lingdale Lodge, Oxton, was the only exhibitor, also in the class for twenty-four incurved blooms. His flowers were solid, fresh, and excellent in colour, and included George Cockburn, a beautiful deep bronzy sport from Princess Beatrice, which was fixed some three years ago, and has remained true—a very pretty flower.

In the open class for twelve Japanese and twelve incurved Mr. H. Howard, gardener to A. S. Mather, Esq., Church Road, Woolton, was first. In the former he had capital blooms of Florence Davis, Edwin Molyneux, Etoile de Lyon, Mdle. Marie Hoste, Vivian Morel, W. H. Lincoln, and Stanstead White. Mr. J. Williams, gardener to C. J. Procter, Esq., Nocturnum, was a very good second. In the class for eighteen Japanese, distinct, Mr. G. Burden was again placed first with a grand stand, the best blooms being Vivian Morel, Etoile de Lyon, and Boule d'Or. Mr. T. Ranson, gardener to H. R. Rodger, Esq., Oaklands, Spital, was a good second, and Mr. E. Broadey third.

In the class for eighteen incurved, distinct, Mr. G. Burden was placed first, having a splendid stand, the best blooms being John Salter, M. R. Bahuant, Jeanne d'Arc, and Queen of England. Mr. T. Ranson again showed remarkably well for a second place. For twelve Japanese, distinct, Mr. J. Trelford, gardener to C. Gatehouse, Esq., Nocturnum, was first, and the second prize fell to Mr. A. Price, gardener to F. Jevons, Esq., Claughton. In the class for six Japanese, Mr. J. Williams was successful. Mr. Broadey had a good stand of twelve incurved blooms, and Mr. M. Clary, gardener to R. Hobson, Esq., The Marfords, Bronborough, won with six incurved. For six Japanese, and six blooms, any kinds, distinct, amateurs, Messrs. Swan and Darlington were successful.

The groups of Chrysanthemums were magnificent. The plants were dwarf in habit, with blooms of superb quality throughout. There was but little to choose between the first group exhibited by Mr. H. Benson, gardener to C. T. Gostenhofer, Esq., and the second by Mr. A. Price. For six dishes of fruit, Mr. J. Barker, gardener to J. Raynes, Esq., Rock Ferry, was placed first, having good Muscat and Alicante Grapes, Marie Louise and Beurré Diel Pears, King of Pippins and Ribston Pippin Apples. Mr. M. Hannagan, gardener to R. C. Naylor, Esq., Hooton Hall, was a good second, and Mr. R. Brownbill, gardener to J. C. Sinclair, Esq., Ravenswood, Rock Ferry, third. The same exhibitor was first for two bunches of Alicante and two of Muscat of Alexandria Grapes, being followed by Mr. T. Winkworth, gardener to R. Brocklebank, Childwall Hall, and Mr. T. Ranson. Mr. T. Ferguson, gardener to Mrs. Paterson, Rocklands, Rock Ferry, staged two fine coloured bunches of Gros Guillaume in the class for any other black, and Mr. Brownbill second with fine samples of Gros Colman. For eight dishes of culinary Apples, Mr. M. Hannagan was first; Mr. J. Davis, Bunhill, Bodenham, Leominster, was a close second. In the six dishes of dessert Apples, Mr. Davis was an easy first, and Mr. Hannagan second.

The nurserymen's exhibits were all of the highest quality. The Liverpool Horticultural Co., Garston, had a certificate of merit for cut flowers, wreaths, and crosses. The same distinction fell to Messrs. Dickson, Limited, Chester, for six large baskets, and thirty-six dishes of splendid Apples. Messrs. W. Clibran & Sons, Altrincham, had also a similar honour for thirty-six Chrysanthemum blooms of the newer varieties. Mr. Swan, Secretary, and Committee, are to be complimented on the thorough success of the Show.

TOTTENHAM AND EDMONTON.—NOVEMBER 10TH AND 11TH.

THE fourth annual Exhibition of the Tottenham and Edmonton Chrysanthemum Society was held in the Drill Hall, Park Lane, on the above dates, and for a local show there was an excellent display. Cut blooms were fairly good, the strongest feature, however, being the trained plants, whilst groups, if not numerous, were well arranged.

The principal class in the cut bloom section was for twelve incurved and the same number of Japanese. Mr. W. Welfare was first with a stand of well grown flowers. The incurved blooms were small but neat, and the Japanese were excellent. The Japanese varieties comprised

C. W. Clarke, Etoile de Lyon, W. H. Lincoln, Fair Maid of Guernsey, Stanstead White, Sunflower (the premier bloom in the Show), Alberic Lunden, Gloire de Rocher, Avalanche, Mrs. F. Jameson, A. H. Neve, and Sarah Owen. Incurved: Empress of India, John Lambert, John Salter, Lord Alcester, Lady Hardinge, Ami Hoste, Jeanne d'Arc, Miss Violet Tomlin (the premier bloom in this section), Jardin des Plantes, Mrs. Heales, Mrs. Brunlees, and Mistral. Mr. G. W. Hendon was second with smaller blooms. In another class for twelve Japanese Mr. Welfare was first with a stand of good blooms, the second prize going to Mr. G. W. Hendon. Mr. J. Fall, gardener to Samuel Swarbrick, Esq., The Cedars, Tottenham, had the best stand of six Japanese blooms; Mr. G. W. Elliot, High Cross, being second.

For twelve Japanese Mr. F. Gilks, gardener to W. E. Fier, Esq., Elm House, Walthamstow, was first, showing a dozen even blooms. Mr. W. Davey, gardener to C. C. Payne, Esq., Stamford Hill, was second with larger but rather rough blooms, the third prize going to Mr. G. Chalk, gardener to H. V. Lang, Esq., Adderley House, Stamford Hill.

Trained plants were very fine. Mr. G. W. Hendon, gardener to J. Spiers, Esq., Tottenham Park, was first for four standards, Mr. W. Davey being second, and Mr. F. Gilks third. Mr. Hendon was also first for four trained specimens, showing grand plants. The second prize went to Mr. Gilks, and the third to Mr. Davey. Mr. Hendon was again first for a single specimen, showing a magnificent plant of Margot, also for four trained Pompons. Mr. F. Gilks was second, and Mr. Davey third in the former class.

Groups were also very good. Mrs. Winnsett, High Road, Tottenham, was first in one class; Mr. M. England, Tanner's End, Edmonton, being second. In the open class Mr. G. W. Hendon was first with a group of grandly grown plants, the second prize going to Mr. Welfare, and the third to Mr. W. Sapsford, gardener to J. Burbidge, Esq. Mr. W. Elliot had the best group of foliage plants. Mr. H. J. Ives, gardener to Mrs. Chalkley, North Side, The Green, was second; and Mr. W. Thompson, third.

There was a good display of fruit, vegetables, and miscellaneous plants.

WARE.—NOVEMBER 10TH AND 11TH.

THE third annual Chrysanthemum Show of the Ware Horticultural Society was held in the Town Hall on the above dates. In the open classes the competition was in some cases keen, but this could not be said of the groups, though the quality was excellent. Mr. G. Fulford, gardener to R. Walters, Esq., The Priory, Ware, was first in the large group. In the smaller collection Mr. G. Collins, gardener to Stanley Gray, Esq., Canons, Ware, secured premier honours, while Mr. S. Gillians came second. Specimen plants, Pompons, found Mr. J. Turk, gardener to P. Bosanquet, Esq., Little Berkhamstead, first, and Mr. Fulford second.

Cut blooms were very strong. Twelve incurved and twelve Japanese, distinct, were closely contested by Messrs. J. Turk and G. Fulford. The former proved victorious by a few points, his Violet Tomlin, Golden Empress, Vivian Morel (grand), W. W. Coles, and Avalanche being most conspicuous. Mr. Fulford excelled in Golden Empress, Empress of India, Violet Tomlin, Stanstead White, Avalanche, Sunflower, and Etoile de Lyon. In the class for twelve incurved Mr. Fulford proved too formidable for his rival, his blooms being very even and fresh. His bloom of Mrs. Robinson King was the finest we have seen through the season. Violet Tomlin, Mons. R. Bahuant, and White Empress were also good. Mr. Turk's blooms were not quite so even. The latter exhibitor was first in the twelve Japanese, closely followed by Mr. Fulford. In the smaller classes Mr. Dover led with incurved varieties, followed by Mr. G. Collins. With Japanese Mr. D. Phillips, gardener to Rev. E. E. W. Kirkby, was first, followed by Messrs. Collins and Dover. Six blooms, one variety, was taken by Mr. Fulford with a fine stand of Etoile de Lyon.

Grapes were not numerously shown, but the classes for Apples and Pears were keenly contested. Mr. Smith's Pears were excellent, as were Mr. Turk's dessert Apples. Vegetables were also good.

PUTNEY.—NOVEMBER 10TH AND 11TH.

THIS annual Show was held in the Cromwell Hall, Putney, on the above dates. The entries were not so large as in previous years, but the Show as a whole was an excellent one. The arrangement of the Show and the convenience for visitors were good in every way, reflecting credit on the Committee of management and the Secretary, Mr. J. Moore.

Mr. Dark, gardener to J. Hooker, Esq., Lomond House, Putney, had the best group. All his plants were sturdy and carrying healthy foliage and excellent flowers. Mr. Poe, gardener to Colonel Poe, C.B., Putney, and Mr. Reeves, gardener to G. Allen, Esq., Putney Hill, were second and third respectively. Mr. Portbury, gardener to W. N. Fry, Esq., Putney Hill, was awarded the special prize given by G. H. Pitt, Esq., Chairman of the Society, for a miscellaneous group of foliage and flowering plants. Mr. Methven, gardener to W. Keighley, Esq., Wimbledon Park, was second. Mr. McLeod, gardener to S. Morgan, Esq., Roehampton, also staged a mixed group, which was highly commended.

Cut blooms were good. Mr. Knowles, gardener to Mrs. Egerton, Putney, gained the first prize for twenty-four incurved blooms, distinct; Mr. Portbury being second, and Mr. J. Bentley, gardener to Lady Gabriel, Wimbledon Park, third. Mr. Knowles was again first for twelve incurved, and Mr. J. Bentley second. For the premier incurved bloom Mr. Knowles was first with a grand example of Empress of India. For six incurved blooms Mr. C. Bentley, gardener to W. J. Bosworth,

Esq., Roehampton, was first; Mr. Wright, gardener to H. A. Tufnell Esq., second; and Mr. Mynett third.

Japanese blooms were excellent, particularly those shown by Messrs. Knowles, Portbury, and Wright, who gained the prizes in the order named for twenty-four distinct varieties. Mr. Knowles was also first for twelve blooms, and Mr. Wright second. For six blooms Mr. Mynett was first, Mr. C. Bentley second, and Mr. Reeves third. Mr. Mynett was awarded the prize for the premier Jap with a very fine bloom of Sunflower.

Anemones and reflexed were best shown by Mr. Knowles. Mr. C. Bentley was first for Pompons, showing some really grand flowers. Specimen plants were fairly well shown. The amateurs' and single-handed gardeners' classes were very well filled, some excellent blooms and specimen plants being exhibited in each case.

Mr. Reeves showed some excellent Primulas, for which he was awarded the first prize. The collections of fruit and vegetables were decidedly good. Stove and greenhouse plants were shown in splendid condition by Mr. Methven, as also were some Ferns by Mr. J. Bentley.

WINCHESTER.—NOVEMBER 10TH AND 11TH.

THE annual Exhibition was held in the Guildhall on the dates named, and was altogether excellent—certainly one of the best, if not the very best, that has been seen in the ancient city. Cut blooms formed the most important feature. Groups were good, as were some of the specimen plants, and fruit and vegetables were admirably represented.

The principal prize for cut blooms was the challenge cup offered by the ladies of Winchester, in addition to the first prize of £5 given by the Society, for forty-eight in thirty-six varieties, half incurved, and the remainder Japanese. Mr. N. Molyneux, gardener to J. C. Garnier, Esq., Rooksbury Park, Wickham, Fareham, won by the superiority of his incurved blooms, the Japanese being weaker. The varieties were—Incurved: Golden Queen of England (2), Empress of India (2), Golden Empress (2), Lord Alcester (2), Miss Haggas (2), Mrs. S. Coleman (2), Violet Tomlin, Queen of England, Mrs. Heale, Mrs. Robinson King, Empress Eugénie, Princess Teck, Mrs. Mitchell, Lord Wolseley, Mrs. W. Shipman, Nonpareil, Mr. P. Mudie, and M. P. L. Blancard. Japanese: Etoile de Lyon (2), Mrs. F. A. Spaulding (2), Vivand Morel (2), Alberic Lunden, Florence Davis (2), Condor (2), Mdle. M. Hoste (2), Lilian B. Bird, Val d'Andorre, A. H. Neve, Sunflower, Madame J. Laing, W. H. Lincoln, Puritan, Edwin Molyneux, Mrs. C. Wheeler, Stanstead White, and Vice-President Audiguier. Mr. Neville, gardener to F. W. Flight, Esq., Twyford, Winchester, was a good second with heavier and superior Japanese, but smaller, yet very good, incurved. Mr. Agate, Havant, was third.

For twenty-four Japanese, not less than twelve varieties, Mr. H. R. Brown, gardener to A. B. Welch-Thornton, Esq., Beaupaire Park, Basingstoke, was placed first with a creditable stand. The most noteworthy blooms were Stanstead White, E. Molyneux, Pelican, Mrs. F. Jameson, A. H. Neve, Sunflower, and Avalanche. Mr. G. Linden, gardener to Sir H. Mildmay, Dogmersfield Park, Winchester, was a close second; Mr. Neville third. The best twelve incurved, distinct, were contributed by Mr. N. Molyneux with medium sized but neat blooms; Mr. Neville was second. Mr. N. Molyneux was also successful with Lord Alcester for six of any incurved variety, Queen class only; and also for the same number of any but the Queen class with Mrs. Coleman, full, fresh, and neat. Mr. Neville was second with Robert Cannell. For six blooms, any white Japanese variety, Mr. N. Molyneux staged Mdle. Marie Hoste in magnificent condition. So good were they that the N.C.S. certificate of merit was awarded in addition to the first prize. Mr. C. H. Holloway, gardener to F. N. C. Read, Esq., The Wakes, Selborne, Alton, was second with Avalanche in prime condition. Mr. Molyneux followed up his previous success by securing first honour in the class for six any one Japanese variety, excluding white, with Etoile de Lyon in perfect condition. Mr. Neville second with Vivand Morel, richly coloured. Mr. R. H. Brown won the first prize for twenty-four, in not less than eighteen varieties; Mr. Linden second.

For the best group of Chrysanthemums, arranged in a space 8 feet by 7 feet, Mr. G. H. Street, gardener to the Rev. Dr. Fearon, The College, Winchester, was placed first, with the best group yet seen at Winchester. Mr. F. Broomer, The Weirs, was a good second. For eight trained specimens, Mr. E. Carr, gardener to W. A. Gillett, Esq., Fair Oak Lodge, Bishopstoke, won the premier award; as also he did for one specimen Japanese with Madame A. Rendatler, fully 5 feet in diameter, freely flowered.

Grapes were contributed in good numbers and of superior quality. For three varieties, one bunch of each, Mr. Budd, gardener to F. Dalgety, Esq., Lockerby Hall, Romsey, was first; Mr. J. Gardener, gardener to Col. H. Stratton Bates, Twyford Lodge, second. For two bunches any black variety, Mr. Gardener was first with Alicante in prime condition, as also was he for the same number of any white. Apples and Pears were shown in good condition and numbers by Mr. Hall, gardener to S. Montagu, Esq., South Stoneham House, and Mr. Trinder. Vegetables by Mr. Bowerman, gardener to C. Hoare, Esq., Hackwood Park, Basingstoke, and Mr. G. Best, gardener to Mrs. Chute, The Vyne, Basingstoke. Mr. Hillier, Winchester, staged a large collection of Apples which were highly commended.

The silver medal of the N.C.S. was awarded to Mr. N. Molyneux for excellence of culture in his cup stand of blooms.

Mr. E. Molyneux, gardener to W. H. Myers, Esq., M.P., Swanmore Park, Bishop's Waltham, staged a collection of cut Chrysanthemums "not for competition," consisting of Japanese, incurved and single

varieties quite up to the best exhibition form, also two dozen bunches of Pompon and single varieties tastefully arranged in vases, which added to the attractiveness of the Exhibition.

EXETER.—NOVEMBER 11TH.

THE annual autumn Exhibition of this Society was held on the date named in the Victoria Hall, a site well adapted for such a Show. This Society dates back as far as 1829, the schedule containing a list of its Presidents from that date, Lord Clifford being its first, the present being the 176th Exhibition of this Society. Cut blooms and hardy fruit were by far the most important parts of the Show. The former were contributed in large numbers and splendid condition. Fully 600 dishes of the latter were staged, making a splendid display, especially as the majority carried magnificent colour.

Cut blooms of Chrysanthemums made a splendid display. For thirty-six Japanese, distinct, a silver cup was offered, which brought seven competitors. Mr. G. Hawkins, gardener to W. H. Fowler, Esq., Claremont, Taunton, won it with a grand collection most tastefully arranged. The varieties were Stanstead White (to which was also awarded the prize for premier bloom), W. W. Coles (fine), W. H. Lincoln, Mrs. T. Clarke, Puritan (massive), E. Molyneux, Mrs. E. D. Adams, Etoile de Lyon, F. Davis, M. Bernard, Ralph Brocklebank, Sunflower (superb), Avalanche, Mrs. C. Wheeler, Potter Palmer, Madame J. Laing, Mr. E. Beckett, Gloire de Rocher, A. H. Neve, Japonaise (fine), Gloriosum, Violet Rose, Sarah Owen, Lord Brooke (extra fine), S. Dibbans (good), Mrs. A. Hardy (excellent), Madame Bacco, Lady Lawrence, Mr. G. Bryceson, Lilian Bird, Vivand Morel, M. Freeman, Mrs. J. S. Fogg, Louis Boehmer, Coronet, and Miss A. Hartzhorn. Mr. G. Foster, gardener to H. Hammond Spencer, Esq., Glendagh, Teignmouth, was second, and Mr. Stiles, gardener to Miss Fripp, The Grove, Teignmouth, third.

For eighteen Japanese, distinct, six competed, making a bright display. Mr. W. Connolly, gardener to J. C. P. Talbot, Esq., Exeter, won the first prize with a splendid collection, large, bright in colour, but not well staged, the varieties being Florence Davis, Edwin Molyneux (superb in colour), Etoile de Lyon, Thunberg, Mrs. E. W. Clarke (immense size), Mrs. F. Jameson, Louis Boehmer, Sunflower, Stanstead White, Madame Bacco, Condor, Madame J. Laing, Gloire de Rocher, Avalanche (fine), Sarah Owen, Volunteer, M. Bernard, and Mrs. A. Hardy. Mr. Fowler was a close second, having Vivand Morel, Lou's Boehmer, F. Davis, Etoile de Lyon, and Miss A. Harzthorn (very fine). Mr. Foster was third. For twelve Japanese, distinct, Mr. Scarle, gardener to Miss Boyd, Torquay, won the premier position with a good collection. Mr. J. Bishop, gardener to the Rev. F. C. Drake, Henlade, Tawton, second. Mr. Stiles third.

Incurved were not shown so meritoriously as were Japanese. For twenty-four, distinct, Mr. Foster was just ahead of Mr. Stiles for first place, both staging medium-sized neat blooms. Mr. F. Prothero, gardener to W. McKenzie Bradley, Esq., Exmouth, third. The class for twelve incurved produced better quality than the larger one. Mr. J. Bishop won the premier award with an even stand of blooms, well staged, of the following varieties—Lord Alcester, Violet Tomlin, Golden Empress, Empress of India, Bronze Queen of England, Mrs. S. Coleman, Ami Hoste (very fine), Miss Haggas, Jeanne d'Arc, Princess Alice, Queen of England, and Cherub. Mr. Connolly was second. Mr. J. B. Payne, gardener to the Bishop of Bath and Wells, third, all close, eight competing.

Anemone varieties were well shown by Mr. Prothero, who was first with twelve distinct varieties. Mr. H. Veole, gardener to the Rev. H. Simms, Torquay, was second. Mr. Bond, gardener to F. Knopman, Esq., Exeter, had the best Pompons and single varieties in six varieties. The premier incurved bloom was Golden Queen of England in Mr. Connolly's stand of twelve incurved.

Grapes were capitally shown by Mr. Payne in the class for three bunches Alicante. Mr. W. Martin, gardener to Lord Poltimore, Poltimore Park, Exeter, was second. Mr. Connolly had the best three bunches Muscat Alexandria, fine examples. For three bunches of any other kind Mr. J. Wensley, gardener to J. H. Miller, Esq., Exeter, was first with Lady Downe's in perfect condition.

Apples were finely shown. In the class for twenty-four varieties, five fruit of each kind, Mr. A. C. Williams was placed first for a splendid exhibit of leading varieties, not large but of rich colour. Mr. J. Garland, gardener to the Hon. Sir T. D. Ackland, Exeter, a good second. Mr. J. Gibbins, gardener to the Rev. J. D. Gibbs, Exeter, won in the class for twelve dishes with really splendid fruit. Mr. Martin won with six varieties dessert kinds with excellent examples.

Messrs. R. Veitch & Sons, Exeter, had a very fine collection of Apples, "not for competition," for which was awarded a certificate of merit, a similar honour falling to Mr. Jarman, Chard, for Apples and Onions. To Mr. Godfrey, Exmouth, was given a first-class certificate for Chrysanthemum Beauty of Exmouth. Mr. Cann, the Hon. Secretary, deserves a word of praise for the admirable manner in which he managed such a fine exhibition.

BRADFORD.—NOVEMBER 11TH AND 12TH.

THIS Exhibition was held in the Technical College, and generally speaking indicated that the above date is somewhat early for a late district like that of Bradford. This was particularly noticeable amongst the incurved flowers. In the open classes the quality of the blooms, especially the Japanese section, were remarkably good.

For twenty-four incurved blooms, not less than eighteen varieties,

G. Cockburn, Esq., Lingdale Lodge, Birkenhead (gardener, Mr. G. Burdon), was first. This exhibitor staged Mons. R. H. Bahuant (2), Empress of India (2), Queen of England (2), Jeanne d'Arc (2). Mrs. Heale, Golden Empress (2), John Salter (2), John Lambert, Alfred Salter, Lord Alcester, Mr. Bunn, Lord Wolsley, Mrs. Shipman, Sir Staff. Carey, Lady Hardinge, Prince Alfred, a new variety under the name of G. Cockburn, and Princess Beatrice. Mr. Cockburn was the only exhibitor in this class. For twenty-four Japanese, in not less than eighteen varieties, Mr. Cockburn was again placed first with fine examples of Etoile de Lyon (2), E. Molyneux (2). Sunflower, Stanstead White, Mrs. F. Jameson, Puritan (2), W. H. Lincoln, Florence Davis, Mrs. Irving Clarke, Mons. Bernhard (2), Sarah Owen, Pelican, Criterion, Mdle. Marie Hoste, Vivand Morel, Avalanche, Boule d'Or, Lillian B. Bird, Gloire de Rocher, and Vivand Morel. The second prize was awarded to C. J. Omerod, Esq., Green Royde, Brighthouse (gardener, Mr. A. Barber); Mrs. Roundell, Gledstone, Skipton (gardener, Mr. J. Bell), being third. Mr. G. Burdon also was successful in class for twelve Japanese and twelve incurved. Mr. A. Barber secured the first prize in the class for six Japanese, one variety, with magnificent blooms of Puritan.

In the local class for twelve Japanese (dissimilar), A. Jacobs, Esq. (gardener, Mr. T. Newbould), was placed first. This gentleman also won chief honours all through the remaining classes. For the second year in succession Mr. T. Newbould also exhibited a very fine "sport" from Madame Bacco, which secured the National Society's certificate of merit.

Groups of Chrysanthemums were staged by B. Priestly, Esq., M.P. (gardener, Mr. W. Butters), E. W. Hammond, Esq., Horton Hall (gardener, Mr. J. Keighley), C. R. Hindley, Esq., Gathorne, Horton (gardener, Mr. J. Swainston), these winning in the order named.

Bouquets were a great feature. Messrs. Perkins & Sons of Coventry securing the first prizes for the brides' and hand bouquets with two very choice and tastefully arranged examples.

A very fine and effective group of ornamental foliage plants was exhibited by Mr. T. Horsman, nurseryman, and another very similar group by Mr. Thos. Haw. Great credit is due to the Hon. Sec., Mr. G. R. Taylor, for the able manner in which all the details of the Show were carried out.

White Grapes were exhibited by Messrs. H. Dickenson, Shardlow, Derby, A. Faulkes, Esq., Farnley Hall, Otley, first and second respectively. A. Jacobs, Esq., Craigroyd, Kanedon, and Mr. Dickenson, secured the prizes for black Grapes.

LEICESTER.—NOVEMBER 11TH AND 12TH.

THE sixth annual Show was held in the Floral Hall, which is an excellent building for the purpose. There were about 200 entries altogether, and the Show, on the whole, was better than any previous occasion, although the incurved blooms were scarcely so good as last year.

The first prize for twenty-four incurved blooms was won by Mr. H. Shoesmith, gardener to M. Hodgson, Esq., Shirley, Croydon. Good blooms of Golden Empress, Lord Alcester, Violet Tomlin, Madame Darrier, Lady Dorothy, and Hero of Stoke Newington were in this stand. Mr. A. Coombes, gardener to Earl Dudley, Himley Hall, was second; and Mr. W. H. Divers, gardener to J. T. Hopwood, Esq., Ketton Hall, third. Mr. H. Shoesmith was also first for twenty-four Japanese, staging splendid blooms of Vivand Morel, W. W. Coles, Mdle. Marie Hoste, E. Molyneux, Sarah Owen, and Stanstead White. Mr. J. Underwood, gardener to R. Walker, Esq., Enderby Hall, Leicester, was second; and Mr. W. H. Divers third; from the latter's stand a very fine example of Vivand Morel was selected as the premier Japanese bloom in the Show, and for which a certificate was given. For twelve blooms, six incurved and six Japanese, Mr. J. Copson, Collingtree Grange, Northampton, was first with a grand stand of both Japanese and incurved.

In the class for twenty-four blooms, twelve incurved and twelve Japanese, open only to the county of Leicester, for a silver cup, Mr. Dunkley was first; his best blooms were Lord Alcester, J. Doughty, Golden Queen, Empress of India, Golden Empress, Hero of Stoke Newington, Vivand Morel, Miss A. Hartzhorn, Edwin Lonsdale, Avalanche (very good), and Etoile de Lyon. The Rev. J. Bird was second, Mr. J. Underwood third. Mr. H. Dunkley was again first for twelve blooms, six incurved and six Japanese, having Queen of England, Lord Alcester, Golden Empress, and Avalanche in splendid condition. In the cottagers' classes some of the blooms were nearly equal to those shown by the gardeners, Mr. J. Whait and Mr. C. Day showing very fine examples of Vivand Morel and Golden Empress.

Three groups of plants were staged, the first prize going to Mr. H. Rogers, florist, Leicester; Mr. W. Calvert, gardener to G. Oliver, Esq., Hughenden, second; Mr. J. Smith, gardener to S. Bennett, Esq., Holmdale, third. Mr. G. Barry, gardener to H. Snow, Esq., Glenwood, was first for a bouquet. For a basket of Chrysanthemums Mr. J. Smith was first, and Mr. G. Barry second.

In the fruit classes the two bunches of Grapes were sent not for competition by Mr. W. J. Thornton, nurseryman, Marlborough, and these were awarded a certificate of merit. Certificates were also given to Mr. G. R. Lawson, gardener to Mrs. Ellis, Knighton Hayes, for a fine collection of Apples, and to J. Ellis, Esq., for a similar exhibit. A certificate was also given to Messrs. Harrison & Son of Leicester for a good collection of vegetables, and Mr. Rogers received a similar award for a wreath. Table plants were good, the prizes going to Mr. Rogers, Mr. Smith, and Mr. Calvert in the order named. Mr. Burns sent foliage

plants from the Abbey Park, which added considerably to the effect of the Show.

SHEFFIELD, HALLAMSHIRE, AND WEST RIDING.

NOVEMBER 11TH AND 12TH.

THE tenth annual Show was held, as in previous years, in the Corn Exchange, and proved a very fine and attractive display.

In the open classes for twenty-four incurved and twenty-four Japanese, cut blooms, around which most interest centred, there were six competitors. Mr. R. Parker, Impney Hall Gardens, Droitwich, was first in each class with very good flowers. The Japanese were large, bright, and fresh, and the incurved, though perhaps not quite so large and heavy as usual, were fine, smooth, solid blooms. The Princess of Wales family were particularly good. The varieties were John Lambert (2), Queen of England, Empress of India (2), Lord Alcester, Mons. R. Bahuant, Golden Empress, Violet Tomlin (2), Mrs. Coleman, Queen of England, Mrs. Robinson King, Princess of Wales (2), Mrs. Heale, Miss Haggas (2), Chas. Gibson, Lord Eversley, Lord Wolsley, Princess Teck, Lady Hardinge, and Jeanne d'Arc. Other prizewinners in this class were Mr. A. Coombes, Himley Hall Gardens, Dudley, second; Mr. C. Osborn, Liverpool, third; and Mr. James Douglas, Ilford, fourth. The same exhibitors each occupied respective places in the class for twenty-four Japanese. The varieties in Mr. Parker's first-prize lot were Vivand Morel (2), W. H. Lincoln (2), Mdle. M. Hoste (2), W. W. Coles, Etoile de Lyon, Stanstead White, Boule d'Or (2), Gloire du Rocher, Florence Davis (2), E. Molyneux, Sunflower, Alberic Lunden (2), Avalanche, Madame C. Audiguier, Thunberg, W. K. Woodcock, W. Tricker, and Mr. G. Herring.

In the classes for twelve incurved and twelve Japanese Mr. Parker was again first. His varieties were:—Incurved: Queen of England, Empress of India, Mons. R. Bahuant, John Lambert, Lord Alcester, Mrs. Robinson King, Mrs. Heale, John Doughty, Alfred Lyne, Miss Haggas, Princess of Wales, and Mrs. Coleman. Japanese: Etoile de Lyon, Stanstead White, Boule d'Or, Vivand Morel, Florence Davis, Mdme. C. Audiguier, Mdle. M. Hoste, E. Molyneux, Alberic Lunden, Avalanche, W. Tricker, and Kate Mursell.

In the various local and district classes there were many very good flowers shown, especially in the Japanese section; but in the incurved there was a decided falling off. This probably was owing to the lateness of the flowers in the district this season. The silver medal, given for the best Japanese bloom in these classes, was won by Mr. H. Broomhead, the popular Treasurer of the Society, with a superb flower of Vivand Morel, the best in the Show.

Groups arranged for effect were numerous, and formed a fine feature of the Show. For the group of miscellaneous foliage and flowering plants Mr. E. Pidsley, gardener to Mrs. H. Wilson, was first with a charming arrangement. For the group of Chrysanthemums Mr. W. Redmill, gardener to G. Lowood, Esq., was first, and Mr. C. Green, gardener to Sir H. E. Watson, second.

Specimen plants have not previously been better shown at this Show than on this occasion. For six plants large flowering, distinct varieties, the awards were:—Mr. C. Scott, gardener to J. Colley, Esq., first; Mr. C. Green second; Mr. E. Pidsley third; Mr. R. Agar, gardener to S. Roberts, Esq., fourth. These exhibitors secured the prizes in other classes.

Primulas were shown in large numbers and of first-class quality, as also were British Ferns. Mr. John Eadon staged a group of the latter, which included many rare and beautiful specimens. Messrs. S. W. Seagrave, Crossland & Sons, and Fisher, Son, & Sibray all staged fine groups of miscellaneous plants, not for competition.

Mr. J. Nelson, of Thorn Bank Nurseries, Catcliffe, Rotherham, showed more than 100 dishes of very fine Apples, demonstrating fully what fine fruit under good cultivation may be produced in what is generally considered a most unfavourable situation.

Mr. H. J. Jones, Ryecroft Nurseries, Higher Green, Lewisham, staged a magnificent collection of cut flowers of Chrysanthemums, forming, as it was said, quite a show in itself. The blooms were mostly very large and fine, good enough for open class competition, and contained amongst them numerous new varieties.

BATLEY AND DISTRICT.—NOVEMBER 12TH.

THIS Exhibition was held in the Drill Hall on the above date. Groups of Chrysanthemums were a fine feature, and bore evidence of the steady improvement in the culture of the plant in this district. G. Sheard, Esq., Upper Batley (gardener, Mr. J. C. Davis) was placed first with a magnificent collection rather too stiffly arranged. R. J. Critchley, Esq., Hyrst House, Batley Carr, was second; and J. Stubley, Esq., Carlton Grange, Batley (gardener, Mr. W. J. ffries) third; and J. J. Carter, Esq., Upper Batley (gardener, Mr. S. Stubley) fourth.

In the open class (cut blooms) Mr. J. P. Leadbetter, gardener to A. Wilson, Esq., Tranby Croft, Hessle, secured premier position for twenty-four, twelve incurved and twelve Japanese. The varieties were, Incurved: M. R. H. Bahaut (2), Queen of England, J. Lambert (3), Lord Alcester, J. Doughty, Golden Empress, J. Lambert, Lord Wolsley, Empress of India, and Alfred Salter. Japanese: Concorde (2), W. W. Coles, Puritan, Vivand Morel (2), W. H. Lincoln, Mons. Bernhard, F. Davis, Madame Baco, Stanstead White, and Sunflower. Mr. P. Blair was a close second, the Japanese flowers being superior to those in the first prize stand. The best blooms were Vivand Morel, Puritan, Mr. E. Becket in the Japanese, and Madame Darrier in the incurved. Mr. J. Thornton, nurseryman, Drighlington was close behind for third. For twelve varieties, six Japanese and six incurved, Mr. Blair was first, Mr.

J. P. Leadbetter second, and Mr. W. H. Atkinson, Cemetery Lodge, third. For bouquets of Chrysanthemums Mr. Blair was first and Mr. Thornton second.

A fine collection of fruit was exhibited by Mr. W. Green, nurseryman, Garforth, Leeds, comprising the leading varieties of Pears and Apples.

READING.—NOVEMBER 15TH AND 16TH.

THE Show at Reading was in every way an excellent one, the groups being particularly noticeable. The cut blooms were also conspicuous, being mostly excellently shaped and neat.

The first prize for a group was awarded to Mr. Turton, gardener to J. Hargreaves, Esq., Maiden Erlegh. His plants were all well grown, being finely foliaged and flowered. Mr. Frost, gardener to W. Palmer, Esq., Reading was second with a fine group, the plants in it being dwarfer than those of Mr. Turton, but not carrying such good flowers. Mr. Simmons, gardener to J. Wheeler, Esq., Reading, was third. In the groups, open to single-handed gardeners only, Mr. Smith, gardener to Miss Russell, Reading, was first with a most creditable arrangement. Mr. Goddard, gardener to J. W. Hounslow, Esq., Reading, was second; and Mr. Mayne, gardener to Lord Saye and Sele, Reading, third.

For twelve incurved blooms, distinct, Mr. Lane, gardener to Miss J. D. Smith, Ascot, was first, his stand containing some of the most perfect flowers in the Show. Mr. Sturt, gardener to N. L. Cohen, Esq., Englefield Green, was second, and Mr. Goldsmith, gardener to Sir E. Loder, Bart., Horsham, third. In the class for forty-eight cut blooms, twenty-four each, Japanese and incurved, Mr. Neville, gardener to F. W. Flight, Esq., Twyford, was awarded first prize for a magnificent stand of flowers. Mr. Lane was second and Mr. G. Garner, Christchurch, third. The entries in this class were numerous, all the stands being most commendable.

Mr. Ashman, gardener to C. D. Crews, Esq., Billingbear, was awarded the first prize for twelve Japanese blooms, distinct; Mr. Knowles, gardener to F. Crisp, Esq., Henley, being second; and Mr. Maxim, gardener to the Hon. Miss Shaw-Levebre, third. The competition was keen in this class, the prizes being thoroughly deserved by each of the winners. For twelve incurved Japs, Mr. Neville was awarded first prize for a most charming exhibit, Mr. Ashman being second, and Mr. Lane third. Mr. Neville was also given first prize for twelve reflexed Japs; Mr. Ashman and Mr. Maxim being second and third respectively. For twelve reflexed blooms, distinct, Mr. Sturt was awarded the first prize.

Mr. Frankland, gardener to F. A. Lucas, Esq., Sonning, was first for specimen plants, and Mr. Surman, gardener to M. H. Best, Esq., Donnington, second. The first prize for four Japanese was awarded to Mr. Frost; Mr. Booker, gardener to W. B. Monck, Esq., Coley Park, and Mr. Powell, gardener to G. Gilligan, Esq., Reading, being second and third in the order named. Mr. Ashman was awarded the first prize for six table plants, his exhibit being excellent; Mr. Lane second, and Mr. Knowles third. Mr. Frost was awarded the first prize for a beautifully arranged large table vase, also for a small one. Miss Phillips, Reading, gained the first prize for a stand of cut flowers and foliage, which was most charmingly arranged. The same lady was awarded first prize for a stand of autumn leaves.

Plants, Tomatoes, and fruit were splendid; but pressure on our space forbids our giving a detailed report.

Mr. Owen, Maidenhead, staged a fine collection of cut blooms "not for competition." Mr. Phippen, Reading, showed an excellent group of foliage plants, in the midst of which were a cross and bouquet of white flowers, the effect of the flowers on the foliage being exquisite.

WIMBLEDON.—NOVEMBER 15TH AND 16TH.

THE Show at Wimbledon this year was a distinct advance on its predecessors, and those who imagined it would be composed of inferior material received a great surprise. Messrs. Mease and Carpenter, particularly the former, staged magnificently, and their contributions alone made the Exhibition a fine one. Mr. Mease, who carried all before him, had some of the finest, if not the finest, blooms staged this season, his forty-eight being many points in advance of his splendid winning stand at Kingston-on-Thames. The silver cup offered by W. B. Faulkner, Esq., at last became his property, this making his third win for it, and it will be conceded that he has fairly earned the handsome trophy. Some particulars of the Show are appended.

The most remarkable feature of the cut-bloom classes was the stand of twenty-four incurved and twenty-four Japanese, staged by Mr. Mease, gardener to A. Tate, Esq., Downside, Leatherhead, for the cup offered by W. B. Faulkner, Esq. Both sections were magnificently represented, the flowers being very heavy, finely proportioned, fresh, and well finished. The Japanese were as follows: Vivian Morel (a splendid flower, selected as the best Japanese in the Show), Alberic Lunden, Geo. Daniels, Sunflower, Condor, Edwin Molyneux, Boule d'Or, Etoile de Lyon (the latter being a splendidly coloured flower), Puritan, Violet Rose, Florence Davis, G. C. Schwabe (fine), Lilian Bird, Mdle. M. Hoste (superb), Mrs. E. W. Clarke, J. Stanborough Dibben, Mdme. Baco, Eda Prass, Mrs. Wheeler (in beautiful condition), Mr. A. H. Neve, Cesare Costa, Sarah Owen, Mdle. Lacroix, and Louis Boehmer. The back row incurved were John Lambert (very fine), Queen of England (2), Mons. Bahuant (2), Lord Alcester (2), and Empress of India. The end bloom of Lord Alcester was a magnificent example, $4\frac{1}{2}$ inches deep, and was selected as the best incurved in the Show. It was one of the finest ever staged. The middle row flowers were Violet Tomlin, Golden Empress (2), Jeanne d'Arc, Robert Cannell, Empress of

India, Princess of Wales, and Mrs. Coleman, the latter being one of the best examples seen this season. The front row flowers were Mrs. Coleman, Princess of Teck, Mrs. Norman Davis, Lady Dorothy, Miss Haggas, Hero of Stoke Newington, Mrs. Shipman, and Mrs. Heale. Mr. Carpenter, gardener to Major Collis Browne, Byfleet, was second with splendidly coloured flowers, but they were many points in the rear of the cup stand. Amongst the Japanese, Lizzie Cartledge, Lilian Bird, and G. C. Schwabe were very fine, while the incurved included a beautiful bloom of Princess Beatrice, and good examples of Mr. Brunlees, Mrs. Coleman, and Jardin des Plantes. Mr. Ritchings, gardener to Dr. Frankland, was a good third, gaining points with incurved, but losing with Japanese. His back row incurved were very fine blooms, particularly Emily Dale and Empress of India. Vivian Morel and Sunflower were very good among the Japanese.

For twenty-four blooms, twelve each Japanese and incurved, Mr. Mease again won. His Japanese were much too large for the board, and had colour as well as size, the incurved also being deep and good. Mdle. Lacroix, Etoile de Lyon, Mrs. Coleman, and Mons. Bahuant were all very fine. Mr. Carpenter was once more second with smooth, clean flowers, such as he usually shows, lacking weight and substance, however, as compared with the others. Mr. Mease scored another victory with twelve incurved, his Robt. Cannell, Mons. Bahuant, Mrs. Heale, and Violet Tomlin being the best of a first-rate box. Mr. Carpenter was again second; Mr. H. Alderman, gardener to G. Hatfield, Esq., being third with small but very neat flowers. Precisely the same result followed in the class for twelve Japanese. Mr. Mease was first with a splendid box, in which Etoile de Lyon, G. C. Schwabe, and J. Stanborough Dibben, were conspicuously fine. Mr. Carpenter had weight, but lacked his usual finish; Criterion was, however, splendid.

There were several good stands of six reflexed, the best being that from Mr. Mease. The varieties were lilac and golden Christine, Cullingfordi, and Cloth of Gold, all very good. Mr. Carpenter was second, and Mr. W. J. Wright, gardener to H. A. Tuffnell, Esq., third. The latter won with large Anemone-flowered, having a very neat box. Mr. Bentley, gardener to Lady Gabriel, was second. A. Nagle, Esq., Kingston, was first with Pompons; Mr. H. Alderman second, and T. J. Berridge, Esq. third. In the local classes the principal winners were Messrs. Portbury, gardener to W. N. Troy, Esq.; J. Bentley, H. Hawkes, gardener to G. B. Tate, Esq.; Skeggs, Hogger, J. Brown, J. Tunnate, and W. Yalden. In the amateurs' section there were some excellent flowers. Dr. Walker won with six incurved for Mr. Luff's prize, W. B. Faulkner, Esq., being second. W. Northover, Esq., won with six Japanese, the Doctor here coming second, and E. Linfield, Esq., third. Mr. Faulkner had an excellent stand of twelve Japanese, Dr. Walker being second, and Mr. Nagle third. Mr. Northover had the premier Japanese, a good example of Mdle. M. Hoste. Dr. Walker had the best stand of twelve incurved, the flowers being small, but very neat, Messrs. Faulkner and Nagle being second and third. Dr. Walker won with six for the Society's prizes, Mr. Linfield being second, and Mr. Northover third. Dr. Walker's Golden Empress was the premier incurved.

Mr. Bradford, gardener to W. Hope Hall, Esq., won the tradesmen's silver cup for a group. His blooms were good, but the group looked unfinished, the front plants being $3\frac{1}{2}$ to 4 feet high. Mr. Thornton, gardener to T. E. Crocker, Esq., was second; and Messrs. J. & A. Bateman third. Mr. Law, gardener to R. Dean, Esq., had an attractive miscellaneous group, albeit lacking colour. Mr. Bradford was second. Mr. Day won with a smaller group of Chrysanthemums. Mr. Bentley won with a single trained Pompon, and Messrs. Bateman with a large flowered variety. Table plants, basket Primulas, and fruit added to the interest of the Show. Messrs. Thomson & Sons had a mixed group of plants, while Messrs. E. D. Shuttleworth & Co., Limited, showed choice foliage plants.

TWICKENHAM.—NOVEMBER 15TH AND 16TH.

THE Town Hall at Twickenham presented a very bright appearance on the occasion of the Chrysanthemum Show this week. The main hall was reserved for groups and plants, plenty of room thus being afforded for promenading, but the cut blooms had to be placed in a rather small room, where there was not too much space, and on the whole it would, perhaps, have been better to have had a central staging for them in the large hall. The Committee, no doubt, did what they judged to be the best, and the arrangements were certainly excellent.

There were five groups in competition, all possessing points of merit. Mr. Simmonds, gardener to W. Cunard, Esq., was first with a collection of very healthy plants, carrying large fresh flowers, but the group was somewhat too closely packed, the flowers sloping in an even mass from top to bottom; a little more freedom would have been an advantage. However, Mr. Simmonds merits the credit of a very attractive arrangement. Mr. Parsons, gardener to T. Twining, Esq., was a very close second, his plants being a little less crowded than the others, and carrying very fine blooms. There were not many points between the two. Mr. Debnam, gardener to Andrew Pears, Esq., was third with a smaller group, but containing many fine flowers. Mr. Parsons won Sir E. J. D. Pauls' first prize for a basket of plants. Mr. Rickwood, gardener to Lady Freake, was second; and Mr. Marden, gardener to Mrs. Stearns, third. Mr. Attwood won with six untrained Chrysanthemums; Mr. Brill being second, and Mr. Collett third. Mr. Parsons had the best Bouvardias, the plants being large and freely flowered; younger specimens from Mr. C. J. Waite, gardener to Colonel Talbot; and Mr. Garrod, gardener to J. R. Tindale, Esq., being second and third.

Primulas from Mr. Garrod were good, albeit not very varied, and were placed first. Messrs. Rickwood and Burton, gardener to Sir E. Paul, being second and third. Mr. Wilkins, gardener to Mrs. Pearson, showed some beautiful table plants and won readily; but Messrs. Debnam and Sage, who were second and third, also had good material. Mr. Garrod won with Zonal Pelargoniums. Miss Clarke had the best stand of flowers—a pleasing arrangement; Mr. Reeves was second, and Miss Cole third. The latter won with a bouquet, and Mr. Reeves was second. Miss Cole won again with buttonholes and sprays.

The first prize for twenty-four blooms, twelve incurved, twelve Japanese, went to Mr. Waite, whose flowers were of medium size, very fresh, and of good colour. Vivian Morel was very broad in petal amongst the Japanese, and the other flowers were also substantial. The incurved were exceptionally good, the flowers being very smooth and symmetrical; Prince Alfred, Empress of India, Golden Empress, and John Doughty were admirable examples. Mr. Hunt, gardener to P. Ralli, Esq., was second with better Japanese, but much inferior incurved, these being rough. Mr. Woodgate was third with smaller flowers, but the incurved were smooth and good. Mr. Waite won again with twelve incurved, and although the flowers were somewhat small they were smooth, fresh, and well finished. The best were Prince Alfred, Violet Tomlin, and Lord Alcester. Mr. Woodgate was a very good second, his flowers being smooth but rather uneven. Mr. Wilkins was third. Mr. Hunt had a very fine stand of twelve Japanese, the flowers being much too large for the board. Vivian Morel, Mons. Bernard, and Mdlle. M. Hoste were splendid. Mr. Waite was second, J. Woodgate third, these being very close. The latter won with Anemones, having a very fine stand, and also with Pompons, of which he had a charming box. Mr. Garrod was second. With six incurved, one variety, Mr. Waite won, having Violet Tomlin splendidly coloured. Mr. Hunt was second with the same variety, heavier, but paler. Mr. Wilkins was third. Mr. Woodgate won with six Japanese, one variety, showing Etoile de Lyon, and Mr. Hunt was second with Edwin Molyneux. Mr. Fordham, Mr. Tracy, and others exhibited plants not for competition, and there was an extensive display of fruit and vegetables, for particulars of which space cannot be found.

[We have received several other reports of Chrysanthemum Shows, but regret our inability to insert them this week. We, however, desire to thank our correspondents who have kindly favoured us with reports of shows.



HARDY FRUIT GARDEN.

Planting Wall Trees.—In planting wall trees now, doing the work well, and with reasonable expedition in fine weather, there is every reason to expect good results. The soil is now moist, comparatively warm and friable, and the young fibrous roots of fruit trees are just in the condition to make a good start. Late or spring planting, except with well prepared trees, is somewhat risky, the trees requiring more attention in order to encourage a regular growth.

Forms of Trees.—These comprise horizontally trained trees, the best form in a general way for Apples and Pears; standard fan-trained for very high walls, half-standard for medium walls, and dwarf fan-trained for lower walls; also oblique and upright trained cordons, with single and double lateral cordons for low walls. Fan-trained trees are the most generally adopted for stone fruits for one important reason, which is the liability of fruit trees of this class to lose branches, often suddenly and unexpectedly. When this occurs with any other form but the fan-shaped specimens there is a difficulty in filling up the vacant spaces. This can be done with fan-trained trees, as branches can be originated at almost any point, or those that are good re-arranged on the wall. The latter plan is beneficial when growths are rather crowded and need more room.

Distances Between Trees.—Apples on the Crab stock and Pears on the Pear stock should be planted 20 feet apart, but the former on the Paradise stock and the latter on the Quince stock may be planted 12 to 15 feet apart, as growth is not so vigorous. These distances are for horizontally trained trees. Oblique and upright cordons of the same fruits can be planted 2 feet apart. Peaches, Nectarines, and Cherries grown on the fan system should be planted 15 to 20 feet apart; while Apricots and Plums ought to have the greater distance—20 feet.

Age of Trees.—In selecting trees for wall planting give preference to clean, healthy specimens some few years old from the bud or graft. These will have been trained in the nursery for the purpose for which they are wanted. In addition to being carefully trained, such trees have generally a fair amount of fibrous roots through frequent transplanting. They, therefore, lift well, and with care in removal soon obtain a fresh start in their new positions. Avoid, however, obtaining trees of greater age and size, as they are rarely satisfactory.

Preparing Borders.—The borders for fruit trees against walls should be permanently prepared before planting the trees. In some soils and positions artificial drainage is essential. When this is the case every

precaution must be taken to ensure a complete arrangement so that superfluous moisture can find a ready outlet. A good drain 3 to 4 feet deep placed along the front of the border, and connected, with sufficient fall, to some main drain will usually prove ample. The width of borders varies according to the height of the wall, the lateral area which trees are expected to cover, and the stock upon which they are grown. The maximum height of a wall for ordinary fruit trees is 12 feet. When such walls are intended to be covered by trees on the free stock with an area in breadth double their height a border 12 feet wide will ultimately be required. For trees of lesser dimensions, and on dwarfing stocks, borders 6 to 8 feet wide will suffice; while for cordon trees, borders 2 to 4 feet in width, according to the height of the trees, must be afforded. A general depth of 2 to 3 feet is considered ample.

Soil for Wall Trees.—The soil should, as a rule, be fairly rich and strong, loam partaking slightly of a clayey character, but not so as to be tenacious. Apples and Pears will thrive on a soil of this character if it be deeply worked. For stone fruits add lime rubbish broken fine at planting time. Manure may also be added to enrich it, taking care that it is incorporated well with the soil, so that no rank, strong portions can come in contact with the roots of the trees when planted. Poor soil or that of too light and dry character is of little use for fruit culture, especially against walls.

Planting.—When everything is ready for placing the trees in position dig out the holes, making them wide enough to admit roots easily without being curled or twisted. Prune back to good portions all the crushed or injured roots, shortening gross roots considerably, and reducing the strong tap root. Place the bole of the tree fully 3 inches from the wall. In damp situations or in heavy cold soil it is imperative that the roots be raised above the surrounding level in order that a warmer position is afforded so that they can make a more satisfactory growth. Spread all the roots in an outward direction from the walls, carefully fixing and securing them between shallow layers of fine loamy soil mixed with charred refuse from a recent smother. Bury very few of the roots more than 3 or 4 inches deep. When all are carefully covered with the fine compost spread some of the ordinary soil over them to the required depth, and well water the ground to wash the soil closely around them. This is better than treading and stamping, injuring no fibres. In a few days mulch the surface with short littery manure. Only loosely secure the plants to the walls, but not so that they cannot settle along with the soil as it finally subsides.

FRUIT FORCING.

Strawberries in Pots.—All plants for early forcing should be placed in frames, with a view to protect them from severe frost, heavy rains, and snow. Severe frost does the plants no good, but heavy rains and snow often cause the drainage to become much choked. In the frames, and plunged in ashes to the rim of the pots, the plants are quite safe, only take care not to let any become and remain dry at the roots, to use the lights only when heavy rains prevail, and then with them tilted at the back, and closed when snow or frost happens, otherwise drawing off the lights. If protection, as that of mats, is given in severe weather, the plants can be removed at any time as required for forcing. One of the commonest and worst practices is to pile the pots—plants outward—in a sort of half cone against a wall, packing them in sawdust, leaves, or soil, and the consequence is they are frozen through and the roots injured, whilst not a few suffer from drought, as they are practically unavailable for watering. A greater mistake is made in placing the plants on the border of a Peach house with open ventilators, where the currents of air being constant and excessive provoke evaporation that simply wastes the energies of the plants, and mostly destroys the roots at the sides of the pots. It is a far better plan to stand the pots on a foundation of ashes in a sheltered situation, and surround them with ashes level with the rim of the pots, affording them a light covering of straw or bracken in severe weather. This answers very well for midseason and late forcing plants, they being removeable at any time and take no harm, only if frozen they must be thawed in a house not much above freezing point.

Where there is the convenience of a Strawberry house and fruit is required early—say in late February or early March—a batch of plants may now be introduced, placing them on shelves near the glass, and only employing fire heat to exclude frost at night, and to maintain a temperature of 50° by day, at and above which ventilate freely. The plants forming this batch should be the earliest matured, with well formed crowns, and of the most approved early forcing varieties, as John Ruskin, La Grosse Sucrée, and Vicomtesse Hericart de Thury. The first named has all the characteristics of the old Black Prince, except that it is bigger and better, and not so liable to mildew, which often ruins the crop of forced Black Prince. The mildew almost always appears with the flowers, and then gets a hold on the fruit. Early treatment with bi-sulphide of calcium is an effective preventive. It may be made as follows:—Slake 1 lb. of freshly burned lime, add half a pound of flowers of sulphur and enough water to form a paste, then add one gallon of water, and boil fifteen minutes. It should be kept constantly stirred while it is boiling, then allowed to settle, and when cool pour off the clear liquid into a stone bottle, and keep well corked. For use add half a gill to a three-gallon waterpotful of water, and wet every part of the plants by spraying or dipping them in the solution just before the trusses start from the crown, and repeat before the flowers open, and again when the fruit is set. The mildew that infests Strawberries seems to be proof against dry sulphur—besides, flowers of sulphur dusted on Strawberries after they set is almost as bad as the

disease. This fungus (*Oidium Balsami*) has a penchant for some varieties or types of Strawberries—namely, Black Prince, Pioneer, and Sir Joseph Paxton, as La Grosse Sucrée and Vicomtesse Hericart de Thury mostly are free from it, whilst it runs riot on Black Prince in the same house.

Where there is convenience it is a great aid in early forcing to afford the plants the benefit of a slight warmth at the roots by making up a bed of leaves about 2 feet in height, placing the plants in a frame or house upon it, packing the space between the pots with damp leaves. The bottom heat at the base of the pots should be 65°, the top being kept cool, 50° not being exceeded, and when mild draw off the lights. This will promote activity at the roots, and the crowns will push little or nothing, yet the plants after a month of this treatment—the bed then being cool or the pots withdrawn in preparation for removal to a vinery just being started—will go right away without having the leaves drawn or the trusses weakened by being placed direct from cool quarters in a house almost warm enough when started for the Strawberry when in flower. In fact, plants with well developed crowns and abundant roots do not always succeed in a vinery because they are brought into flower too rapidly, but treated in the manner advised excellent fruit of La Grosse Sucrée may be had in March from a vinery started at the new year.

KITCHEN GARDEN.

Rhubarb.—This invariably forces the most readily after the roots or clumps have been exposed to a severe frost, slightly baring for a few days in frosty weather those to be lifted being a good preparatory measure. In most instances frosts cut down the leaves early, and a good rest has thereby been enforced. Strong clumps of the early forms such as Prince Albert, Johnstone's, St. Martins, and Paragon, may, therefore, be either forced where they are by means of deep tubs or boxes, and heating material, as advised in the case of Seakale, or better still they may be lifted and forced in either Mushroom houses, heated pits, or under the stagings in forcing houses. The best stalks are obtained in the former place, but they can be had more quickly in stronger heat if care is taken to guard against extreme dryness and also to well darken the crowns.

Globe Artichokes.—The growth of these has been very vigorous and sustained later than usual. At no time are the plants really hardy, and in all probability are more likely to be injured by severe frosts this winter than they were last year. A heavy mulching of strawy litter is one of the best protections that can be afforded, this being banked up well around the stalks of the leaves. The latter will most probably be killed down to the litter, but the crowns will escape and strong early growths or flower stems result next season. Failing strawy litter substitute ashes. Leaves are of little service unless heavily surfaced over with strawy litter or soil to prevent them blowing away.

Autumn Broccoli.—Veitch's Autumn Protecting is not particularly hardy, and the same may be said of other varieties now being cut. It is not sufficient to merely tuck two or three leaves over the hearts as they form, this only saving the latter from moderately severe frosts. The better course to pursue is to lift a considerable portion of the later plants, or any only just commencing to form hearts, with a ball of soil and roots attached and to replant them under cover. Deep glazed pits, and the beds or pits in cool vineries, are good places for storing Broccoli, the roots being surrounded with rich moist soil. They may be bedded in rather thickly, and, if kept moderately cool, and the roots in a moist state, good sized very white hearts will form, the supply lasting for several weeks. In the event of severe frosts being anticipated lift the more forward plants as well, and store these either in a shed or where they can be well protected with mats and litter. Late Cauliflowers are still to be had, and these ought now to be treated in the matter of storing and protecting similarly to the early Broccoli.

THE BEE-KEEPER.

APIARIAN NOTES.

THE WEATHER.

SINCE the 2nd of November, the date when the severe frosts for the season left us, the weather has been showery, mild, and genial, with more sunshine than we had in the same space of time during any of the summer months. Colchicums are still pretty, Wallflowers and Arabis are reviving. Chrysanthemums have recuscitated, and are bright with flowers. The same may be said of the Marguerites, while single and double Hepaticas, Primroses, Christmas Roses, double scarlet Geums, Achillea tomentosa, &c., adorn our borders and attract our bees. Numbers of them are carrying pollen from the newly opened flowers.

BLUE TITMICE.

These scourgers of Currant and Gooseberry bushes and devourers of bees, which as a rule begin their depredations on the 1st of November, have not as yet made an appearance. To protect our Currant bushes I take a smooth rope, double it, and draw the bush together tightly, then tie the ends together. This plan I learned long ago from the *Cottage Gardener*. I then take some of the

decayed annuals and hang them over the bushes, for affording protection. This secures a good crop, whereas without the little care the crop would be nil.

WINTER FEEDING.

No food keeps bees so well in winter as the best refined cane sugar. It is positively injurious to allow bees to winter on some kinds of honey, particularly Heather honey; but it is by far the best for spring. The Carniolan hive referred to lately took up food from below during the severest weather and sealed nicely. Fourteen pounds of sugar dissolved in an equal weight of water were taken more quickly than 4 lbs. from one of my best top feeders, both feeders employed at the same time. Unless in extreme cases candy should not be given to bees. When bees take sugar they seal it; the idea that they do not is mere imagination.

MANAGEMENT OF HIVES FOR EARLY WORK.

Premising that bee-keepers have so managed their hives during autumn and winter as to be in a good condition, and the brood well forward about three weeks before the first honey flow, or about the time our hives begin to swarm, select the most forward hive to strengthen advanced ones. Never waste bees or brood upon weak stocks, nor, at least till you are master of the art of bee management, add one colony to another. In many cases of supposed successful uniting the bee-keeper is apt to deceive himself, the bees showing no signs of killing each other for some time after the operation; but if the bee-keeper go to the hives after dark he will to his surprise, if not mortification, hear and see them leaving the hive in a wounded state in rapid succession, and if the hive be examined next day no more bees will be seen than the original ones. Bees do strange things at times, and not unfrequently kill off a portion of their own stock for some reason or other I cannot understand. The hives to be strengthened must not only be strong but be of full size, so that there will, with the hatching of its own and introduced brood, be ample space for the queen to deposit 4000 eggs daily. It is desirable that all the good from a prolific queen be taken at the proper time, and that necessitates a large hive. It is of no use keeping two queens in one hive that one queen can fill with eggs, nor joining brood to a small hive when the object is to gather honey.

One good hive is sufficient to strengthen three other strong hives, but the bee-keeper may have to modify the distribution more or less according to his judgment. One caution is necessary, be quite sure there is no foul brood.

The bees deprived of their combs may be treated as a prime swarm or for the purpose of raising queens to be ready to introduce to any hive that may swarm. There is as yet no plan devised that will prevent swarming, but introducing a young fertile queen with ample space in the hive for her enormous egg production will have effect.

Super in time to delay swarming, but on no account after the bees are determined to raise royal cells attempt preventing it by cutting out queen cells or anything else, or you will be disappointed.

Swarms contain the majority of the working bees, and work much better than any unswarmed stock, while all the honey gathered is stored in combs of the greatest purity.—A LANARKSHIRE BEE-KEEPER.

TO CORRESPONDENTS

* * * All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Croydon Chrysanthemum Show (*Inquirer*).—As the officials neither advertised the Show nor sent the usual press tickets to this office we concluded that a report was not desired in the *Journal of Horticulture*.

Apples in Wet Land (L. F.).—Your orchard probably needs draining. We have seen Bramley's Seedling Apple free from canker when growing in an Osier bed and bearing excellent crops of fine fruits. As dessert Apples we have found both King of the Pippins and Wyken Pippin to answer as well as any in a damp situation. The last-named variety is one of the latest and is very good.

Arrangement of Peach Trellises (S. J. A.).—In large and lofty structures the cross trellis system answers very well, more fruit being had probably than in any other way, but the colour is not so good as when grown under more direct exposure to sun on the ordinary arched trellis and unshaded walls. We have many times stated that Mr. Iggulden's "Tomato Manual" can be obtained from this office post free for 1s. 1½d.

The Silver Tree (F. B.).—The plant of which you sent a leaf is a member of the natural order Proteaceæ, and is known to botanists as *Leucadendron argenteum*. It is a native of the Cape of Good Hope, where it is known to the Dutch colonists as Witteboom, or Silver Tree, a name which it owes to the silvery appearance of the leaves. The plant is in cultivation, and may be seen at Kew and in a few other establishments where large collections of old and curious plants are grown. It was introduced towards the close of the seventeenth century, so that it is by no means a novelty. Leaves are imported for decorative purposes with the Cape Everlasting Flowers, and may be frequently seen in Covent Garden Market. A figure of the plant was published in the "Botanical Register" in 1826, but it does not show the peculiar whiteness of the foliage.

Upper Branches of Peach Tree Dying (Nemo).—It is not unusual for Peach and Nectarine trees to lose the upper branches where the soil is gravelly, through the long-jointed and immature nature of the growths. The only remedy is lifting, shortening the long and strong roots, and laying them in firm soil near the surface. This should be attended to as soon as the leaves are mature and have commenced falling. If the soil is very open it would be desirable to supply some stronger loam, or preferably clay marl, dried, pounded, and well mixed with the soil to a depth of 18 inches. In lifting particular care should be taken of the fibry roots, and all should be spread out evenly in the top 6 or 9 inches of soil, so as to insure surface rootage, and the roots should be encouraged to multiply there by light mulchings of short manure, and copious watering in dry weather. Make the soil firm so as to induce a sturdy thoroughly solidified growth, and it will not die back.

Alicante Grapes Coated with Honeydew (Honeydew).—Honeydew is not a disease, and is seldom occasioned by anything but insects. Only two or three parasites that we are aware of produce honeydew on Grapes. The worst is mealy bug, but we cannot account for the Grapes being satisfactory "in the vinery and on the table until the foliage begun to ripen." As you do not know the cause nor the cure we cannot assist you to "an idea" without particulars or a specimen of the Grapes. What little information is given leads us to infer that the Vines are attacked by mealy bug. The latter, however, would show on the leaves or Grapes before they were ripe, though its secretions might not be so pronounced as to render the Grapes not fit for table till the foliage was ripening. That we surmise is the case, as this, the most loathsome of insect pests, infests the Vine and renders the Grapes useless for table. The other most prevalent pest causing honeydew is scale; it is not half so bad as mealy bug, and can only exist where proper measures are not taken to prevent its attacks. Yellow thrips also disfigure the bunches, but is somewhat uncommon.

The Use of Milfoils (A. M. C.).—The Milfoils contain an essential oil and a bitter resinous substance. The Common Milfoil (*Achillea millefolium*) or Yarrow possesses these properties in as great a degree as any of the species. It is, as you may have observed, very common in pastures and by roadsides in this country, and was long considered as a noxious weed; but of late years it has been recommended in mixtures of artificial grasses for permanent pasture. The whole plant is medicinal. Both the flowers and leaves have an agreeable, though feeble, aromatic odour, which continues after drying, and a bitter, astringent, pungent taste. The aromatic properties are strongest in the flowers, the bitter in the leaves. The virtues are owing to a volatile oil, a bitter extractive, and tannin. It contains also a peculiar acid, called achilleic acid. The oil is obtained by distillation, and is of a beautiful azure blue colour, with the peculiar flavour of milfoil. In former times the plant was greatly esteemed as a vulnerary, and it is still esteemed as a mild aromatic tonic and stimulant. In the province of Dalecarlia, in Sweden, the inhabitants use it in the making of beer as a substitute for Hops, in order to increase its intoxicating powers. The Scotch Highlanders make an ointment of it, which dries and heals wounds. *A. ageratum* is the Sweet Maudlin, and grows abundantly in the south of Europe. It has a sweet smell and a bitter, aromatic taste; but though at one time regarded as medicinal, it is not now considered to possess any properties worthy of notice. *P. nana* and *P. atrata* are substituted for the true genipi, which is *P. moschata*; but all are used by the Swiss mountaineers as tea, and the last particularly is esteemed as an excellent sudorific, and as furnishing the liqueur *Esprit d'Iva*.

Names of Fruits.—Notice.—Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing.* The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. (*F. Danberry*).—Nos. 2 and 3 are Marie Louise; 4, undeveloped; 5, Yellow Ingestrie; 6, Court of Wick. There are no numbers on the others. (*J. J.*).—1 and 2, Scarlet Nonpareil; 3, Damelow's Seedling; 4, Beurre Diel. (*W. W. C.*).—1, Beauty of Hants; 3, Old Pomeroy; 4, Hoary Morning; 5, Clifton Nonesuch; 6, Adams' Pearmain. (*F. J. G.*).—1, Cellini; 2, Gloria Mundi; 4, Ribston Pippin. (*T. Steven*).—You are in error; we did not name No. 4 Golden Knob. No. 1 now sent is Golden Knob; 2, Cox's Orange Pippin; No. 4, Birmingham Pippin. The No. 4 sent last week was a Pear, and as such duly named.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*Gifford*).—1, *Dichorandra undata*; 2, *Correa alba*; 3, A florist's variety of *Coleus*; 4, *Sonerila margaritacea*; 5, *Ophiopogon Jaburan variegatum*.

TRADE CATALOGUES RECEIVED.

J. P. Abraham, Colombo, Ceylon.—*Tropical Plants, Seeds, Bulbs, &c.*

Dicksons, Limited, The Nurseries, Chester.—*Select Fruits, and Forest and Ornamental Trees, &c.*

Fisher, Son & Sibray, Handsworth Nurseries, Sheffield.—*Fruit, Forest, and Ornamental Trees, &c.*

COVENT GARDEN MARKET.—NOVEMBER 16TH.

Market quiet, with supplies more than equal to demand.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, half sieve	1	0	to	3	6	Lemons, case	15	0	to 35 0
" Nova Scotia, per						Oranges, per 100	4	0	9 0
barrel	12	0	17	0		Peaches, per dozen	0	0	0 0
Cobbs, Kent, per 100 lbs.	0	0	100	0		St. Michael Pines, each ..	3	0	6 0
Grapes, per lb.	0	6	2	0					

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beans, Kidney, per lb. ..	0	6	to	0	0	Mustard and Cress, punnet	0	2	to 0 0
Beet, Red, dozen	1	0	0	0		Onions, bunch	0	3	0 5
Carrots, bunch	0	4	0	0		Parsley, dozen bunches ..	2	0	3 0
Caniflowers, dozen	2	0	3	0		Parsnips, dozen	1	0	0 0
Celery, bundle	1	0	1	3		Potatoes, per cwt.	2	0	5 0
Coleworts, dozen bunches	2	0	4	0		Salsafy, bundle	1	0	1 6
Cucumbers, dozen	1	6	3	6		Scorzonera, bundle	1	6	0 0
Endive, dozen	1	3	1	6		Seakale, per basket	3	0	0 0
Herbs, bunch	0	3	0	0		Shallots, per lb.	0	3	0 0
Leeks, bunch	0	2	0	0		Spinach, bushel	3	0	3 6
Lettuce, dozen	0	9	1	0		Tomatoes, per lb.	0	2	0 6
Mushrooms, punnet	0	9	1	0		Turnips, bunch	0	3	0 4

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.

Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	3	0	to	6	0	Mignouette, 12 bunches ..	3	0	to 6 0
Bouvardias, bunch	0	6	0	9		Mimosa, French, per bunch	1	0	1 6
Caruations, 12 blooms ..	1	0	3	0		Orchids, per dozen blooms	3	0	12 0
Chrysanthemums, dozen						Pelargoniums, 12 bunches	8	0	12 0
blooms	1	6	4	0		Pelargoniums, scarlet, doz.			
Chrysanthemums, dozen						bunches	6	0	9 0
bunches	6	0	12	0		Primula (double) 12 sprays	0	6	0 9
Eucharis, dozen	3	0	6	0		Pyrethrum doz. bunches ..	3	0	6 0
Gardenias, per dozen ..	2	0	4	0		Roses (indoor), dozen ..	0	9	2 0
Geraniums, scarlet, 12 bchs.	6	0	8	0		" Red, per doz. blooms ..	1	0	2 0
Hyacinth Roman, 12 sprays	0	9	1	0		" Tea, white, dozen ..	1	0	2 0
Lilac, white, French, per						" Yellow, dozen	2	0	4 0
bunch	4	6	6	0		Tuberose, 12 blooms	0	4	0 9
Lilium longiflorum 12						Violets, Parme, French, per			
blooms	9	0	12	0		bunch	3	0	4 0
Lilium (var.) doz. blooms	3	0	5	0		Violets, Czar, French, per			
Lily of the Valley, 12 sprays	10	0	12	0		bunch	2	0	2 6
Maidenhair Fern, doz. bchs.	4	0	6	0		Violots, Victoria, French,			
Marguerites, 12 bunches ..	2	0	4	0		dozen bunches	1	6	2 6

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (golden) dozen	6	0	to	12	0	Ficus elastica, each	1	6	to 10 6
Begonia, per dozen	6	0	12	0		Foliage plants, var., each ..	2	0	10 0
Chrysanthemums, per doz.	6	0	9	0		Heliotrope, per dozen ..	6	0	9 0
large plants, each ..	1	0	3	0		Lycopodiums, per dozen ..	3	0	4 0
Cupressus, large plants, each	2	0	5	0		Marguerite Daisy, dozen ..	6	0	12 0
Dracena terminalis, dozen	18	0	42	0		Mignouette, per dozen ..	6	0	12 0
viridis, dozen	9	0	24	0		Myrtles, dozen	6	0	9 0
Euonymus, var., dozen ..	6	0	13	0		Palms, in var., each	1	0	15 0
Evergreens, in var., dozen	6	0	24	0		" (specimens)	21	0	63 0
Ferns, in variety, dozen ..	4	0	13	0		Pelargoniums, scarlet, doz.	6	0	9 0
" (small) per hundred	6	0	8	0		Solanums, per dozen	9	0	12 0



WHEAT SOWING.

NOVEMBER Wheat sowing should be done in the ordinary rotation of farm management, only on what is termed Turnip land, which is land whereon sheep have been folded to consume a crop of white Turnips, say during the last six or eight weeks. It is sound practice to finish strong forward hoggets in this way, giving them crushed oats in the troughs—say a pint per head per day, or even twice that quantity for exceptionally large framed sheep. It is obvious that a Suffolk consumes more than a South Down, and a Kent or Lincoln more than a Suffolk. We give a safe general quantity, and the home farmer must use some discretion as to increasing or reducing it. For such late sowing the Turnips should be sown on really sound deep mixed soil, which is precisely the best of all land for Wheat, and is from its deep tilth, fine firm seed bed, and ease of culture about the only land on which we care to sow Wheat now. If Wheat growing in this country were confined to such land for late sowing, and to heavy land for the early general sowings in September and October, the average yield would rise to 40 bushels. When we get that as an average, and at least 8 bushels more per acre under special treatment, Wheat growing will have once more taken its right place in the economy of farm management, and though not so profitable as of yore—it can never be that again without a war and disruption of our traffic—it will be grown at a profit at any rate.

The deplorable persistence of so many farmers to go on sowing Wheat late in winter, frequently without any special care in the selection or preparation of the soil, not only keeps down the yield average, but makes the farmer a poor man. If he persists in such stupid practice, and comes crying for aid in the form of rent reduction, he should be made to understand in very plain language that he must either alter or leave his farm. Hard measure? Certainly not. Hard for the landlord if you will, to have to suffer for the stupidity and stubbornness of such a tenant. Surely we may claim that it is the duty as well as the interest of every tiller of the soil to till and sow in a manner to give him reasonable expectation of a profit—a fair return upon his work. It is not doing so when a poor weedy stubble is ploughed in November or December and sown with Wheat.

Sheep folds we have shown again and again are one of the very best forms of imparting fertility to land. There can be no doubt that the farmyard manure used for a root crop does much good to the corn crop which follows—probably more good than it did to the roots. The common mistake is in using so little of it and nothing else in ploughing in a miserable half-dressing now for the Wheat. But even that would not be so bad if only it were supplemented by a top-dressing of 1 or 2 cwt. per acre of nitrate of soda in spring when the plant is growing freely, and when it is quickly dissolved by April showers. Nothing in farming is so speedy in action, so marked in effect, so profitable in results. The effect of such top-dressings to all growing crops, but especially of Wheat, has well been described as “wonderful.” Not only is growth marvellously accelerated, but the crop is frequently doubled, so that by the expenditure of about £1 per acre we get corn worth £2 or £3 per acre than would otherwise be possible. We achieve success where failure was so possible, in striking contrast to the lamentable results of those who continue regarding nitrate of soda as a scourge of the soil. How strange! Here we have one of the greatest boons that has ever come to the farmer, positively regarded by him as an evil, a source of harm to his land, a waste of his means. The ignorant just follow the lead of those of greater ignorance, who, are outspoken in their blind dislike of “niter-soda” without test-

ing the matter most carefully for themselves. Only get plenty of mineral manure in the land and the nitrate may be used with a free hand to very great advantage.

To those, then, whose work is in arrear, and who intend sowing Wheat some time or other during winter, we say, Be cautious, and unless you have exceptional advantages of soil sow only enough for home requirements. Far better to do this, ploughing the remainder of the land intended for Wheat, and then wait till spring for a crop of Oats. Be on the alert to obtain enough of the best seed Oats, preferably Black Tartarian, short, thick, heavy grain; give the land a full dressing of manure, consisting of say 3 or 4 cwt. of superphosphate and half that quantity of nitrate of soda, and see if you cannot obtain 80 or 90 bushels of grain per acre, as well as some big stacks of excellent fodder for your live stock. The quantity of Oats per acre is well within bounds, but is far above the ordinary average, and is only to be had on land rich in fertility. Such a crop is much more profitable than any Wheat crop could be from late sowings on poor or badly tilled land.

WORK ON THE HOME FARM.

Most of the fat beasts grazed on marsh land have been sold, and though prices were low, yet on the whole they have afforded us some profit. This is noteworthy at a time when every weekly market gives rise to complaints of heavy losses upon cattle. We can only repeat our advice to every farmer and grazier to clear off his surplus stock, and to set himself seriously to see which animals ought to be regarded as coming under that comprehensive designation. With dairy cows, the home farmer's aim is to keep them in as healthy and fresh condition as he can throughout winter, to have a cow or two calving from the present time onwards till spring or summer. In connection with this herd there must always be in calf heifers, yearlings, and calves, to come into it to fill any vacancies from losses or take the place of worn-out cows. Then for grazing there should be the home-bred steers of from twelve to eighteen months old, with calves of the current year to follow. For every one of them there must be an adequate provision of food and shelter till “turn out time,” which may be by the end of next March, or not till late in May. Let this be well thought out, and a sufficient provision of food made or kept for all possible requirements, and to allow a liberal surplus.

In this matter there must be no foolish parsimonious pinching. Economy here means keeping the whole of the live stock in a healthy fresh condition. The term of “fresh” is familiar to all graziers, carrying with it the meaning of a really fleshy well-nourished animal that is not fat, but which may very soon be made so. Well, now, compare such a lot of animals with the half-starved neglected cattle of the ordinary farm in winter. Many a farm do we know where the cattle have no other shelter than the pasture hedges, where they are on such short commons in winter that every scrap of “fog,” be it green or brown, is eaten up, and which by spring time are in very low condition, so low that it requires months of fair grazing to get some flesh upon the prominent ribs. How can it reasonably be expected that such ill-treated, mismanaged animals can pay? Therefore, we say, Sell surplus stock at any sacrifice rather than keep it till spring. Take all possible care of those which are kept, so that no point of detail, nothing affecting health or comfort, is neglected. Most disgraceful is the condition of many cows in spring after being wintered in stalls and suffered to lie down in filth till their coats are clotted with it.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet

DATE.		9 A.M.					IN THE DAY.				Rain.
1892. November.		Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday ..	6	29.888	50.2	49.0	S.	47.1	56.6	45.6	80.0	38.6	0.040
Monday ..	7	30.158	36.1	36.1	N.W.	46.7	50.6	35.2	71.0	29.9	—
Tuesday ..	8	30.361	37.9	37.9	N.E.	45.6	46.3	35.9	47.9	35.0	—
Wednesday ..	9	30.229	46.1	45.2	N.E.	45.0	49.7	37.4	51.2	34.4	—
Thursday ..	10	30.183	43.6	43.6	N.E.	45.2	46.4	41.7	46.4	35.1	—
Friday ..	11	30.166	44.3	44.2	N.E.	44.9	49.1	39.4	50.1	32.9	0.055
Saturday ..	12	30.023	46.9	45.8	N.E.	45.3	53.0	44.1	55.3	44.7	0.035
		30.144	43.6	43.3		45.7	50.2	39.9	57.4	35.8	0.130

REMARKS.

6th.—Rain early and at 10.30 A.M.; generally sunny after 11 A.M.

7th.—Misty early; bright sunshine from 9.30 A.M.; foggy towards sunset and in the evening.

8th.—Fog more or less all day; generally dense in morning, very slight after 4 P.M.

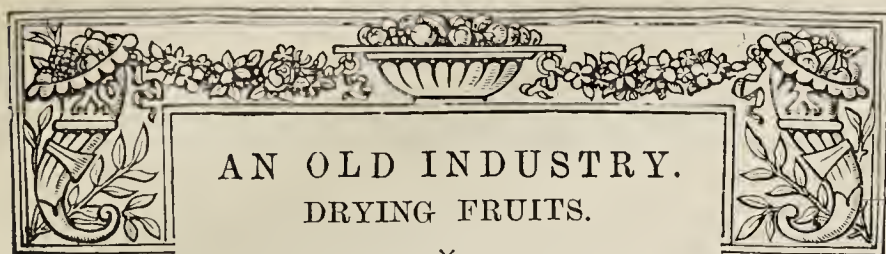
9th.—Slight fog till about 10 A.M., overcast after.

10th.—Fog more or less all day; dense at times in the morning.

11th.—Overcast throughout.

12th.—Clear at times, but very dark, with high fog from 10 to 11 A.M., and 1.30 to 3 P.M.

A dull and foggy week with little range of temperature.—G. J. SYMONS.



MR. IGGULDEN did well last week to direct attention to the great demand for stewed Pears, and to the enormous importations of them in the form of canned fruit from abroad to meet the requirements of our population at home. From the circumstances of the case he draws sensible deductions. He is not satisfied that fruit growers in this country should rest content in allowing other lands to enjoy the monopoly of supplying our markets with preserved Pears that are no better when gathered than the produce of British gardens. He would like to see his countrymen not only share in the trade, but excel in it; and he foresees that if the best methods of preserving Pears are ascertained and adopted, and clear glass bottles are employed for storing, instead of the less wholesome cans, that a new industry may be established. Given fruit of equal value packed in tins with a picture on them, and the contents of necessity hidden, on the one hand; and in clear glass bottles with the produce visible on the other, there is little doubt which the public would choose. The great majority would, unquestionably, prefer the latter. Home-grown fruit, such as Plums, Gooseberries, and other soft kinds preserved and sold in bottles, is far superior to any imported in cans, sells more freely and at higher prices, while there is a growing export trade. If this is so, as it is in respect to these fruits, it is difficult to see why the practice cannot be extended to Pears. Bottled produce, if of the first quality, and not higher in price than imported canned goods, as it ought not to be, would not be long in commanding the market, and our correspondent's hope for a "new industry" would be realised.

We now turn to what may be described as an "old industry," in the drying of fruit. That Apples and Plums can be dried by the process of evaporation as well in this kingdom as any other has been demonstrated at Chiswick this year. The Apple rings and chips dried there by the Mayfarth apparatus were equal to any that could be purchased in shops, from wheresoever they came. Yet of the hundreds of thousands of lbs. sold in London and other centres of population it would be difficult to find even 1 lb. of home-grown and home-dried fruit. Some of the Plums dried at Chiswick have also been as good as the most fastidious could desire after the fruit has been duly soaked and prepared for table. The cost of the drying at Chiswick and the value of the produce show also that the work is profitable. Five bushels of fresh Apples can be pared, cored, sliced, and dried in a day by one man, the expenditure on fuel only amounting to 9d. On a large scale in America the cost of drying a bushel of fruit is 6d. to 7d., the dried produce selling for 2s., a little more or less according to quality. At Chiswick Apples are dried in three hours in a temperature of 150° to 200°; Plums in seven to eight hours, temperature 200° to 225°. For preparing for use the dried fruit requires to be soaked about the same time as is needed for drying. Nothing but water is driven out, all the constituents of the fruit beyond that being retained; and when the water is absorbed by soaking, the fruit is nearly the same in bulk as if the fruit were fresh when cooked and quite as good in quality.

As indicating the extent of fruit drying in America we cite from Mr. Pridgeon's report in the Journal of the Royal Agricultural Society. In one year 31,450,000 lbs. of fruit were dried in California, value £431,590. Much of this bulk would be Plums

converted into prunes, vast quantities of which are sun-dried. In the same year (1888) 37,750,000 lbs. of fruit were dried in evaporators in the State of New York, all but 750,000 being Apples, value of produce £297,000, or a total of 69,200,000 lbs. of fruit in two States in one year of the value of £728,590. Most of this fruit is sent to Europe. In Germany and France a great deal of fruit is dried, especially Plums, but practically none in England.

It may be urged, however, that the fruit-drying referred to cannot be regarded as an "old industry." It cannot so far as regards the work in America. It is there modern—nineteenth century work, in which trade enterprise and business acumen are displayed in a remarkable manner; but on the European continent the drying of Plums is an ancient art, still in progress, and was once commonly practised in England. In the former countries both as a commercial undertaking and a domestic duty; in our counties in a domestic manner exclusively. It is therefore an old industry fallen into disuetude with us, and might with advantage to many families be revived. Mr. Philip Crowley, Treasurer to the Royal Horticultural Society and Chairman of the Fruit Committee, has shown the way—a cheap way too, as he dries his Plums—makes his prunes—at a cost of nothing for fuel, and the most "enterprising" of our friends across the sea cannot easily beat that for economy.

Mr. Crowley placed some of his Plums on the table of the Fruit Committee at Westminster last week, the variety being Rivers' Prolific. Though of excellent quality this Plum is too small for drying; or in other words, there was too little flesh and too much stone; but fruits of Rivers' Monarch dried in the oven and tested at Mr. Crowley's table were in every respect as good as could be desired, and quite equal to the best French cooking prunes. The following is Mr. Crowley's description of his experiments:—

"Ever since I saw Plums dried at Chiswick I have tried some at home. Last year I laid them on cardboard in the usual iron oven tray, but then they were too caramelised and tasted burnt. This year I made some wooden frames to fit the oven and formed trays of galvanised iron wire half-inch netting, and on this laid the Plums. This allowed the air to circulate freely between and under the fruit. When the cooking for the day was done and the oven was a reasonable heat these trays were put in and the door left a little open to help the current of air to pass through, and the fruit left there until the oven became too hot the following morning. This was repeated three or four nights, with the result of having good dried Plums at no expense and no bother. Anyone with a surplus of Plums and a kitchen oven may do the same. We found one lot was not sufficiently dried and began to mould; these we put in again for a night and saved, but with a little care, of course, one knows how dry to make them. I have also done Apples in the usual ring very successfully."

In France, Germany, and Switzerland it is a regular practice for householders to dry their own Plums in ovens or on trays over fires, and, as was stated last week by Mr. Wilks and Mr. Bunyard, the custom was somewhat general in Kent a generation or two ago. It probably ceased as the French and German prunes were found to be better. They were better simply because the varieties—the Quetsche in Germany and the D'Agen in France—were better adapted for the process by their firm flesh and thick skins than the varieties that happened to be grown in home orchards. But we have varieties that are equally suitable for use in a fresh state and for drying. The valuable rather late Plum previously mentioned (Rivers' Monarch) is one of them, and the more it is becoming known the more extensively is it being planted.

At Chiswick the variety Fellemberg gave the best results. This is the Plum the Italians use for drying, and it is described in the "Fruit Manual" under the name of "Italian Prune." It is a large, dark, oval fruit with firm flesh; good for dessert and preserving, and hangs till it shrivels. The Diamond, one of our best cooking Plums, also dries well, but the soft-fleshed and tender-

skinned sorts, such as Victoria and others of that type, do not. Dark Plums are much more tempting in appearance when dried than green or light varieties; but whatever the colour, the fruit should be large, firm in the flesh, and stout in the skin.

It is important, too, that the fruits be perfectly sound, as if any are bruised the juice escapes, and this passing to the sound fruits seals the pores, preventing the escape of the water from them by evaporation, and consequently the fruits split under the action of heat and are spoiled.

As all know, bountiful fruit years, in which Plums and Apples are over-abundant, are commonly followed by years of scarcity; and it is well to know also that by drying surplus produce in a domestic way for home use and on a large scale by the "May-farth" for town populations, that plenty of Apples and Plums may be had for cooking during seasons when few or none grow on the trees. But, apart from that, the consumption of dried fruit is enormous, no matter how good our fruit crops may be; and, as both Apples and Plums can be dried in this country as well and as cheaply as in any other, it is for those who can provide the fruit and the means for dealing with it to consider how long it will be prudent to remain passive and allow the enterprising growers and merchants in other lands to monopolise this great industry and derive profit, as they must do largely at our expense.

SEASONABLE HINTS ON FLORISTS' FLOWERS.

THE very varying character of our climate seriously modifies from year to year the treatment of the various productions of our garden, and what may be fitting for the same class of flowers in one year is totally unsuited for it in the following one; and although we are continually saying that we have had an extraordinary season, I think it is only another way of saying that there is no accounting for our climate. But this is an extraordinary season, at least in my part of the country (East Kent). We had in the month of October 7·45 of rain, which fell on twenty days, the highest rainfall being on the 4th—2·14; while on the first six days of November we had 1·35. In such a state of things what is to be done? Land is unploughed, and consequently unsown. In my own garden I have neither planted a Rose nor lifted my Gladioli. I believe it is the same with all my neighbours. There is no question of covering up our frames, &c. Whether the frost will soon come we do not know, of course; but at present we have escaped any severe attack of it.

AURICULAS.

As far as my own small collection is concerned I may say these plants have had a good time of it. Where frames and houses are watertight the cool damp weather has suited them, and I have had but little autumn blooming, but I hear from my good friend Miss Woodhead that they have been troubled with it, showing how little we can account for it, for one would have thought in the far north (Yorkshire) they would have had less of it than we further south. The chief points to be looked at now are pulling off the outside dead leaves and to keep the houses, pits or frames where they are wintering well aired and ventilated both night and day. Of course unless the weather changes only a slight covering at night, if any, will be necessary. Much as I love this flower, and much as it fascinates those who do admire it, I do not believe it will ever be popular. It is a flower for the select few, and one has only to listen to the remarks of visitors at one of the Auricula shows to be assured that this is the case.

CARNATIONS AND PICOTEEES.

These flowers, on the other hand, are likely to become more and more popular; their beauty and variety, the ease with which many of them are cultivated, their delicious fragrance, their prodigality of flowers will, I am persuaded, win for them an increased amount of public favour. The many-headed multitude can admire them, although they may pass by the Auricula as stiff, formal, and quaint looking. I think that most people now have given up the notion of wintering them in the open ground, unless in the case of the old stools, which may be so treated; but all the varieties, whether of the old florist type or the selfs and border flowers, are much better wintered in pots, either singly or in pairs. In such a season as this these will require but little attention. Great care must be taken, however, on one point—that they do not get too damp; in fact, they require but little watering, and must have plenty of air at all times. Should spot appear on any of the leaves the leaf ought at once to be picked off, as it very soon spreads to others. It may be, if the weather be mild, that aphides may appear; in that case they had better be brushed off with a camel's-hair pencil

or the frames fumigated. It is well, too, occasionally to stir the surface of the soil in the pots.

GLADIOLI.

The wet season has completely prevented anything being done in lifting these, and it is here, as I have always maintained, that the French growers have the pull over us. It is rarely ever that they do not ripen in the open air at Fontainebleau the Muscadine Grape, which is so largely grown there under the name of Chasselas de Fontainebleau, a feat which would be utterly impossible even in our most favoured localities, and this must, of course, help the ripening of the Gladioli bulbs; and therefore, whatever their condition may be for this year, I cannot but think there is a gloomy prospect for next season. The bulbs must be saturated with wet; this will enfeeble their constitution, and make them a ready prey to fungus or disease. Every year I grow them the more they puzzle me. I have never known an amateur who has not had his bad quarter of an hour over them, and thus the lifting of large, handsome looking bulbs is no indication that they are going to be a success next year. I have, as usual, lost a large number this year, and intend, if I plant any more, to put them in an entirely different part of my garden. I would again urge upon all growers to save their spawn and sow it next spring. It is the only way, I am persuaded, to keep up your stock, and comparatively small bulbs will give good spikes of flowers. They should be kept in dry sand in paper bags or boxes, which should be carefully labelled; but, as in many other flowers, the standard of excellence is becoming higher, and many of our cherished varieties will have to give place to others.

DAHLIAS.

The taking up and putting away in a dry place free from frost of the tubers will be the only point to be attended to. I may say that I have been greatly pleased with Mr. Girdlestone's Tom Thumb single varieties, sent out by Messrs. Cheal & Sons.

PANSIES.

It has been a good season for these in the South of England, which usually does not suit them. I do not, however, advise them to be left out. I have already taken up and potted mine, for even though I grow them in pots I always plant them out in a shady place in the summer; they are now placed in a frame, where they will remain all the winter, and be potted off in the spring.

ROSES.

It has been a quiet season for the queen of flowers, which has received but poor treatment from the weather, so that October planting has been an impossibility. One of our most successful exhibitors told me that he had moved many in his own garden and planted them in September, but this could only be done where they had simply to be transferred from one place in the garden to another, and not packed up and sent off a distance; in fact nurserymen have had a difficulty in executing their orders owing to the condition of the soil. The very copious directions given in your columns from time to time by many of your correspondents renders it unnecessary for me to add anything on the subject of planting. Plant firmly, stake well, and avoid placing manure so as to come in contact with the roots, are things that ought to be attended to.

TULIPS.

These are flowers which are never likely to regain the popularity they once enjoyed. Brilliant as they are they have no perfume, and they are about the worst flowers we have for cutting, and hence they do not please ladies, who naturally look for something for the adornment of their homes. There are, however, some who still admire them. The 20th of November used to be considered the orthodox time for planting them, and it seems as if this would be about the time for them this year if we do not get more rain, and surely it cannot rain for ever. I have the bigotry of an old florist, and although I never went in for them regularly as for other flowers, I know something about them; so much so that the so-called Darwin varieties, which scoff at all florists' rules, find no favour in my eyes.

There is one hint which I think may be given on any of the above flowers—viz., that now is the best time to obtain new varieties, or to make additions to those the grower already possesses. In Auriculas this is not easy, for the new varieties are not to be had, and there are few growers for sale; but in the others it is easy to obtain new varieties or first-class old ones, and it is better to have them under one's own eye during the winter than to trust to the spring, when perhaps in reply to your order you may be told of those you have most set your heart upon, Sold out.—D., Deal.

THE NEW INDUSTRY: BOTTLING PEARS.

THE fruit industry in our own country is indebted to Mr. Iggulden for his suggestions as to bottling Pears. Anyone who can help us to depend on ourselves and not on the outer world, even though they be colonists, is conferring a benefit on our little island and its industries. It may be a "tight little island," and there is no doubt about the tightness of the landed interest just at present. Though canned or bottled fruits cannot make up for corn in case of war, yet whilst we are at peace and corn is an unprofitable product, much may be done by way of fruit-growing as a help to pay our way, and so keep money in the country instead of sending it away.

Mr. Iggulden is quite right. Stewed Pears are popular, and deservedly so. They form a very pretty dish faintly tinted with cochineal, and they are decidedly grateful to the palate. I fancy all coarse Pears will do well for the purpose—Beurré Diel certainly will. In former years, when living in rather an elevated part of Somersetshire, I grew very fine specimens on a south wall, but they never were eatable in a raw state. Fortunately a happy moment suggested stewing, and henceforth while there that was the purpose to which this Pear, ironically styled "Beurré," as it appears to me, was always devoted. Thus treated its shape is favourable as it is comely in form, and looks handsome on a dish. Coming hither to my new abode, in a warmer part of the county I hope, I went round the garden with the gardener, who had been renting it, and asked what he knew about the trees. I noticed a large standard Pear, the fruit unshapely, like a very deformed Bishop's Thumb. "What is that?" I asked. "Oh! it's a Pear." "Yes," said I, "I can see that; but what sort is it?" Oh! he did not know, but "it wasn't no good for anything." Not being very large, the idea of stewing these did not at first occur to me, but as they lay about the inspiration came, and quickly being put to the test, I soon had the rest picked and stored for use. They might not do for every dinner-table for guests, but they do for me, and few who taste despise the dish.

There is always some difficulty as to bottling. For successful keeping it always appears to me that the contents should be tied down when nearly at boiling point. In tins of meat this is so managed, only a trace of air at high temperature being in the tins. Thus closed the pressure of the atmosphere as cooling goes on presses down the tin in a hollow, and if no damage happen, as by a stray nail accidentally driven in, the contents remain sound indefinitely. Bottling, however, is not so easy. It is not possible to obtain bottles of the same thickness throughout, and therefore when heat is applied to them they dilate unequally, and the ominous click tells that one has cracked and is useless, and possibly the contents already lost. Can this be avoided? Well, so far as I can see, the safest plan is to put the bottles in cold water, and very gradually, say in two or three hours, the bottles being full of water, raising the whole to boiling point. When emptied the quartered fruit must be quickly placed in them while in the hot water, the nearly boiling syrup poured in almost to the top of the neck, and at once tied down very tightly with sound string and parchment or bladder. Or if the wool has been well heated in the oven, a plug of it enclosed in muslin taken out of boiling water may be used as a cork under the parchment.

Since writing the greater portion of this note I was in a friend's house, and the owner being rather noted for his Pears some were brought out of the store room while I was there, most of them showing signs of decay. The housekeeper said to me, "Oh! these are no good; they are never fit to eat." I looked; they were small Beurré Diels, and I found that they had arrived at the same conclusion as myself—that they were only fit for stewing. From the shape of the canned fruit I certainly lean to Mr. Iggulden's opinion that the colonists have discovered this use for them, as well as we have.—Y. B. A. Z.



CYPRIPEDIUMS AT MESSRS. PITCHER & MANDA'S.

CYPRIPEDIUMS are a speciality at Messrs. Pitcher & Manda's nursery near Swanley. They have a large collection admirably grown, and comprising a considerable number of choice varieties. Of the insignes in flower a fortnight ago three of the most noteworthy were Chantini, albo-marginata, and a fine form of the

latter with larger flowers, having a paler lip and a broader margin of white to the dorsal sepal. Of the Spicerianums there were three attractive varieties in pendulum, aureum, and virescens. C. Euryandum majus, C. Ashburtoniae expansum Cooksoni, C. Harrisianum superbum, and others were also in bloom. A fine plant of Cattleya Dowiana aurea is also worth mentioning. It was in flower some time ago, and at the time of my call was bearing a second spike.—W.

CYPRIPEDIUM TITYUS.

THIS charming hybrid was exhibited by Messrs. J. Veitch and Sons, Royal Exotic Nursery, Chelsea, at the meeting of the Royal Horticultural Society, November 15th, when a first-class certificate



FIG. 61.—CYPRIPEDIUM TITYUS.

was awarded for it. As briefly mentioned in our last issue C. Tityus is the result of a cross between C. ænanthum superbum and C. Spicerianum, the latter being the seed parent. No less than four species are, moreover, concerned in the ancestry of this beautiful hybrid, inasmuch as C. ænanthum superbum was obtained from C. insigne Maulei × C. Harrisianum superbum, and the latter from C. barbatum × C. villosum. It will thus be seen that C. Tityus is one of the most interesting crosses of recent years. It is compact in growth and the flower (fig. 61) is of a moderate size and well coloured. The dorsal sepal is large and broad, white, the centre being spotted with chocolate colour, and the base a pale green. The petals are greenish yellow, similarly spotted to the sepal, while the lip is of an olive green shade.

VINE LEAVES AND LATERALS.

CAN any of your correspondents taking part in the interesting discussion on Vine leaves give a reason for the beautiful colouring of the leaves in some places and not in others? Is it something in the soil or their general treatment? Here nearly all our varieties ripen off the most exquisitely coloured leaves imaginable. We send samples of a few varieties. Gros Colman is very beautiful, even the small young leaves, no bigger than the palm of the hand, colour a bright crimson, streaked and blotched with darker and golden shades. We have a span house, 300 feet long, planted with this variety, the canes one year old, and from top to bottom the roof is a blaze of crimson foliage, which has a very beautiful appearance from the inside, the leaves showing up against the bright light. Black Hamburg and Gros Moroc are a bright golden

yellow, not a spot to mar their beauty, and are very effective. Madresfield Court and Barbarossa (Gros Guillaume) are also very pretty, but these two always colour well. Alicante does not colour at all. I remember once seeing in Selkirkshire a Vine of Alicante every leaf of which was as red as blood. This is the only one I have seen coloured. I pressed and dried a leaf and it kept its bright colour for years. Nothing could be more beautiful than these leaves for house and table decoration at this season. Ours are in great demand, finding a ready market for large quantities, averaging from 1s. to 4s. per dozen.

Although I cannot see my way to take part in the discussion now going on in your columns—Extension v. Restriction—still I may mention a few things that have come under my observation which may be of interest. Like most discussions taking place in the *Journal*, a great deal of sound sense is advanced on both sides. Good Grapes, no doubt, can be grown on both principles. A great deal depends on the distance between the Vines. Where the rods are closely planted (say 2 feet) it would be folly to allow much extension of laterals, as it would result in overcrowding. Where the rods are 4 feet apart freer growth of laterals can be practised without any evil effects. The aim should be plenty of good foliage fully exposed to light and air. Whether this can be had on the extension or restriction system depends entirely on the distance between the rods.

Some years ago, when visiting Mr. Murray of Park Hall, Polmont, a Grape grower with as good a record as any in the country, he was then experimenting very largely with Gros Colman on the extension plan. He found that by allowing the laterals to grow unstopped the leaves did not cup so much as is the general case with this variety. I also noticed the same practice carried out on Gros Maroc, strong shoots 6 and 8 feet beyond the bunch, more like young Vines than laterals. At the time of my visit the Grapes at Park Hall were very fine, heavy crops, grand bunches, and fine finish. It would be interesting to know if he still follows this practice and what effect it had on the following year's crop.

Another man who could throw some valuable light on this subject is Mr. Hunter of Lambton, who I believe has tried more experiments with the Vine than any living man. He at one time allowed the laterals full growth. His experiments seem to have been carried out in a very methodical manner. He had the trellis wires painted different colours for guidance in future cropping of the shoots, which he did in alternate years. He also tried the system of allowing the laterals to hang down until all was a mass of foliage from roof to border. It would be of interest to know if the fine Grapes Mr. Hunter has exhibited were grown at the time of these experiments, or if they had anything to do with the extraordinary bunches of Black Hamburgs he has shown. Mr. Witherspoon of Red Rose Vineries, Chester-le-Street, who grows heavy crops of good Grapes for market, pinches very close. His Vines are close-planted. I think he leaves only one leaf beyond the bunch, but allows free growth to ramble on the border close to the sashes.—D. BUCHANAN, *Forth Vineyard*.

[The leaves received from our correspondent were remarkable for their rich coloration, and we are not surprised to hear that such leaves sell freely, since we know a great trade is done in autumn-tinted Carrot-tops.]

SEEING in the *Journal of Horticulture* some account of weight of Vine leaves, I venture to enclose three leaves taken from a rod of Gros Maroc Vine. They weigh nearly 5 ozs., and the largest leaf measures over 16 by 15 inches. I may say that the Vine from which these leaves were taken has carried a heavy crop for the last six years. With regard to stopping laterals, my practice is to stop three, and if room four, leaves beyond the bunch.—J. L.

[The leaf enclosed was remarkably stout in texture.]

WHILE looking at Mr. A. Lloyd's Vines at Hazelbank, Petersfield, recently, our conversation turned to the discussions in the *Journal of Horticulture* respecting the size and weight of leaves. This led us to measure the one enclosed, taken from a Gros Maroc which has been fruiting four years. None of the Vines is heavily cropped, but some of the bunches hanging are in grand condition, Mrs. Pince especially. Madresfield Court had been cut, the heavy October rains having caused them to decay. They were beautifully coloured, and but little cracking had taken place in the berries while ripening.

The house is a span-roof, 60 feet by 31 feet, height 15 feet to ridge, erected for Tulip growing, the owner having a rich collection, which when in bloom form a grand sight. The structure is not heated nor any special borders prepared, but the Vines are planted about 6 feet apart, so as to only partially shade the Tulips. The Vines are hard stopped, and allowed only one leaf on the

lateral growth. The wood on all appears to be well ripened. The sorts that have ripened and finished off good bunches are Gros Maroc, Madresfield Court, Muscat Hamburg, Black Hamburg, Bruxelloise, Muscat of Alexandria, Buckland Sweetwater, Dr. Hogg, and Mrs. Pince. Others are being tried. The point of the leaf got broken by accident; it weighed with the stalk nearly 2 ozs.—GEORGE NOTTAGE, *Gardener to J. Bonham Carter, Esq.*

[The leaf measured 18 inches in diameter, and was very stout in texture.]

ADIANTUM FARLEYENSE.

How seldom do we see a really well grown plant of this beautiful Fern either in nurseries or private gardens. I have been through some of the leading nurseries lately where other exotic Ferns are to be seen in quantity and well grown, but *A. farleyense* presented a miserable appearance. How is it that so few succeed in growing this, in my opinion, the most beautiful of all the *Adiantums*? Is it because growers give it too much water, or dry it off too much in winter? I will not venture an opinion, leaving that to an abler pen than mine. As I have been successful in restoring a sickly specimen to health, however, my treatment may interest some readers of the *Journal*.

When I took charge of these gardens about fifteen months ago the plant in question was growing in a 12-inch pot. The fronds did not cover the surface of the pot, they were so few. On examination I found the soil in a very wet condition, so I did not water it for a month after. Water was applied only when really necessary during the winter. In the spring the soil was rammed firm and a little fibrous peat and sand placed on the surface. Since that time the plant has grown freely, and now measures 3 feet in diameter. During the summer it had a few waterings with weak liquid manure. The plant is grown in a stove temperature with other exotic Ferns, and is never syringed. I damp between the pots with the syringe two or three times a day during the summer in preference to syringing.

I have been trying experiments with three offsets taken from *A. farleyense*; two I potted in fibrous peat and sand, the other one in fibrous loam, rough leaf mould, small river gravel, and sand. The latter plant has grown very freely, and is now in a 6-inch pot. Those potted in peat and sand are still in small pots, and have scarcely made any growth. I enclose fronds for your inspection. Those taken off the plant grown in loam are not by any means the largest on the plant, but are sufficient to show the difference. I should like to hear the experience of those of your readers who are successful in growing this Fern.—C. RUSSELL, *Clayton West, Huddersfield*.

[The frond from the plant grown in the loam is more than thrice the size of the other.]

A MIDLAND PILGRIMAGE.

THERE is a character in one of Hawley Smart's novels, one of whose special peculiarities it was to arrive at the station a few minutes after the particular train he wished to catch had gone. The interesting developments which followed one instance of indulgence in this pleasing diversion are not to be dwelt upon here, but personal experience and observation constrain me to contend that the novelist displayed no mean knowledge of human nature when he made this trait conspicuous in one of his characters. The connection between the incident noted and a visit to the Chilwell nurseries of Messrs. J. R. Pearson & Sons will not be obvious to the reader, but it is distinctly so to the writer, and doubtless made itself felt with peculiar force to a representative of the firm named while patiently waiting at one station for a visitor who had mistaken his train, come a different way, and alighted at another. But there was one feature which the misunderstanding brought out clearly, and it is that whoever alights at Beeston station may rely upon close and accurate directions upon how to get to Pearson's if there be anything in the shape of man, woman, or child to ply with queries. It seems to be familiar to all, and as the distance is small there is no trouble in reaching it afoot, albeit there are certain twists and turns reminding one of those negotiated by the junior Mr. Weller when guiding the illustrious Pickwick to a favourite house of refreshment in London. Being a stranger in a strange land, on a night densely dark, and the possessor of a somewhat cautious disposition, I thought it prudent to test the accuracy of instructions received on alighting by a further consultation at each corner that had to be turned; but this proved to be a needless precaution, and visitors, it would seem, have no excuse for losing their way when going to see the Chrysanthemums and fruit trees at Chilwell.

THE CHRYSANTHEMUM STREAM.

From the time that the Chrysanthemum season opens visitors go to Chilwell in a constant stream. The tide starts flowing at the beginning of November, and continues unceasingly throughout the month. Strong in the possession of magnificent houses and a very large collection of finely grown plants, the firm trouble not about shows, but go in for a

special exhibition of their own. The exhibitors are themselves, the judges are the public, and the prizes are the orders that are disbursed for the good things on view. There is a catalogue instead of a schedule, and the big blooms are on the plants instead of on a board. This leaves no room for complaint about crowded blooms and over-dressing. Good culture helps Nature all it can, and then leaves the verdict in the hands of visitors. If they like a variety they signify their approval in an acceptable way; if they do not, and it cannot be improved upon for another trial, that Chrysanthemum is cast into the outer darkness, and its place knows it no more. I need not go into details about varieties, for some special remarks were made on them a short time ago, but let it be said that Mr. C. ("Chrysanthemum") Pearson as buyer, and Mr. Pithers as grower, have done their work with judgment and skill. There are few high-class novelties which are not represented in a condition that does abundant justice to the treatment they receive. Viewing the collection broadly it is not surprising to hear that visitors go to inspect it from nearly all parts of the country, and considering it individually it is just as little cause for wonder that not a few of them draw upon it for their own future supplies.

GENERAL PLANTS.

Some of the structures at Chilwell must be amongst the finest in the country. They were erected by the late Mr. J. R. Pearson, and were a source of considerable pride to him. His sons and successors do that which doubtless would have pleased him most—keep them in good condition and excellently furnished. For Zonal Pelargoniums the midland firm enjoy a world-wide reputation, the growth of years. Their strains are marked by vigour of growth, fine trusses, and beautifully rounded substantial pips. There is much food for enjoyment in the collection to all lovers of these plants for pot culture, and grateful recognition should be made of the excellent work that has been done with them. A passing reference by no means does them justice, but there are other things to note, and space fills all too rapidly. Asparagus plumosus grows as one rarely sees it. It is planted out in a border originally prepared for Lapagerias, the soil being good and very porous. The plants flourish like weeds, growing in dense masses 3 or 4 feet thick from the face of the wall. There appears to be enough for supplying the whole county. Another plant in splendid condition is *Tabernaemontana coronaria flore-pleno*. It, too, is planted out, and enjoys a steady heat. Its growth is wonderfully luxuriant, and it flowers nearly all the year round. It is a most useful plant, for the blooms are invaluable for cutting. *Maréchal Niel* Rose is rarely done so well as it is there. The stock of plants prepared for sale is enormous, and they are conspicuous for sturdy growth and perfect ripening. Clematises are another great feature, and *Adiantums*, which fill one of the huge houses above referred to, are splendidly managed. There is a little surprise in store in the collection of Orchids. Ah! you did not know that Pearsons' did these. Just so. But they do. The collection is not the largest in the world, but it is choice and well managed. I was particularly struck with the *Cœlogynes*. These are Mr. "Chrysanthemum's," too. He might not admit that he is rather proud of them, but he looks at them so fondly that you know he is. They are splendidly grown, and in perfect health. Note the luxuriant leafage and fat bulbs. They are as significant as the plump rosy cheeks of a schoolboy before he has made himself ill by unheard of exploits in Apple-eating.

FRUIT AT CHILWELL.

Speaking of Apples brings Mr. A. ("Apple") Pearson to mind. He is brimful of energy, and not to be kept waiting with impunity. His is the fruit department, and to the fruit nursery he conveys me when at length I fall into his hands. Chilwell tells the same significant story as the southern localities with respect to fruit. The demand keeps on growing, and more land is being broken up for planting. It is well done without any question; two crops of roots are taken and then Clover is sown. A good dressing of stable manure and night soil is spread on, and this with the Clover dug in. The land is dug over and the subsoil broken up a spade deep. It is not brought to the surface, but is thoroughly loosened and left. This is all done by hand labour. The work is doubtless hard, and the process somewhat expensive, but it is sound and will give its reward. A comment to Mr. Pearson on its healthy, even though laborious character, elicits the information that in his younger days strength was imparted to a delicate constitution by a few months' hard digging with the men. Mr. J. R. Pearson was a far-seeing man, and did not spare his sons when he saw his way to ultimately benefiting them. When the soil is first thrown up it looks suspiciously tenacious, but in a very short time it softens and crumbles, then planting is at once taken in hand. That is the way to manage the land for fruit. Skimming the surface with a plough may be very well for corn, but it is not enough for trees that have to remain years on the land.

NEWTON WONDER APPLE.

If Mr. C. Pearson looks lovingly on the *Cœlogynes*, what shall I say of Mr. A.'s attitude towards the firm's great Apple Newton Wonder? His catalogue of its virtues is inexhaustible. All his eloquence (and there is a good flow of it) fails to do it full justice. There is abundant reason for a little enthusiasm. The Wonder is a fine Apple—a very fine Apple. Wherever one goes—north, south, east, and west—its good qualities are sung, and other fruit nurserymen speak highly of it besides Mr. "Apple" Pearson, so it is not a personal matter. The variety is a splendid keeper, of fine cooking quality, a heavy bearer, and does well both on the Paradise and Crab stocks. It is a late Apple

that is bound to force its way into favour both for market and home use. It has a general resemblance to Wellington, and possesses the very open eye of that variety. There is a fine stock of it at Chilwell, from maidens to five or six-year-old trees, and plenty of trained material in different stages, so that all requirements are provided for. Throughout the nursery it is conspicuous for its sturdy growth and broad substantial foliage.

TRAINED AND STANDARD TREES.

There is a very fine stock of trained trees. There must be several acres of them altogether, and all are excellently managed. To begin with, all have been transplanted once or twice, and hence the roots are of the right character, so that instead of coarse sappy shoots sturdy matured growth is observable. A great deal of care has been devoted to the training, and the trees are all excellent examples of good workmanship. Mr. Pearson has a little way of pulling out his knife and severing ties where the work has not been done to his entire satisfaction, then leaving a streamer of matting on the tree for indicating that it has to be done over again. The workmen do not relish this by any means, and in course of time learn to avoid its occurrence by careful work. Newton Wonder, New Northern Greening, Lane's Prince Albert, Bismarck, and Potts' Seedling, are all largely represented. It is worth noting that the Wonder has a tendency to bearing at the tips, and should not be shortened except where extension is wanted. Is it generally known that Potts' Seedling is a particularly good town Apple? If not it ought to be. There are few varieties which do so well in smoky localities. Plums are grown largely as horizontals, and look remarkably well. Pears also comprise a large and representative collection. *Maréchal de Cour* is one of the hardiest and most vigorous of them all, while *Doyenné Boussoch* proves its value as a market variety. It is twice the size of Hessele, and a better cropper. A tree was pointed out that has borne well for eleven years. This is worth remembering when the dearth of really good market Pears is considered. The standards are splendid trees. There are about 60,000 of them, all staked. What an amount of labour it must entail. But Mr. "Apple" believes in doing everything well. His ideas are sound, that you soon find out in talking to him, and the evidence of your eyes will tell you the excellence of his methods. There is a grand collection of Apples and also of Damsons. To complete a morning among them that has begun with Chrysanthemums at daybreak is a task the fulfilment of which is at once a benefit and a pleasure.—W. P. W.



EVENTS OF THE WEEK.—Now that the majority of the Chrysanthemum Shows are past horticultural matters are comparatively quiet in the metropolis. The annual dinner of the National Chrysanthemum Society will take place at Anderton's Hotel, Fleet Street, on Wednesday, November 30th, when Sir Edwin Saunders will preside. The customary auction sales will also be held, for particulars of which see advertisements.

— THE WEATHER IN LONDON. — During the past week the weather in the metropolis has been comparatively mild for the time of year. Saturday was bright, though rain fell heavily during the night. Sunday opened fine, however, similar weather continuing on Monday, but with fogs in the morning. Tuesday proved dull and foggy. At the time of going to press it is cloudy, but fine and colder.

— THE WEATHER IN KIRKCUDBRIGHTSHIRE. — Contrary to expectation the weather during the past week has slightly improved. Heavy rain fell on the night of the 14th, but the 15th, 16th, 17th and 18th, although dull, were dry. Fog, however, prevailed in the evenings. The night of the 18th was clear and a little frosty, but heavy rain fell all day on the 19th. The 20th was dry but dull, and to-day (21st) is also dry with faint gleams of sun.—S. ARNOTT:

— THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—The friends of this Institution with ourselves, will be very pleased to hear that the financial result of the Anniversary Festival Dinner, held at the Hotel Métropole on November 15th, and reported in our last issue, from all sources amounted to nearly £2200.

— CHISWICK GARDENS. — The Chrysanthemums in the great vinery are still very interesting, filled as the building is from end to end with plants grown much more naturally than is usually the case. Disbudding has, it is true, been practised to a certain extent, but many of the plants are regular bushes, carrying from twenty to thirty blossoms, instead of the regulation two or three at the most.—W. WILKS, Secretary.

— APPLES IN BELGIUM.—According to the *Illustration Horticole* special trains laden with Apples, mostly destined for the English market, have been dispatched from Tongres and St. Trond.

— IMPORTATION OF APPLES.—The United States and Canada have, says a reliable salesman of Covent Garden Market, already despatched 400,000 barrels of Apples to Liverpool and London this season.

— GARDENING APPOINTMENT.—After eleven and a half years' service with Mrs. Jerome, Holland House, Sutton Coldfield, as head gardener, Mr. J. E. Pears has left to be gardener to J. D. Ripplingille, Esq., Elsinore, Manor Hill, Sutton Coldfield.

— A CALIFORNIAN FIG ORCHARD.—California claims to possess the largest Fig orchard in the world. It is said to occupy 460 acres of land, and the crops derived from the trees are simply enormous. An American contemporary states that 2160 lbs. of Figs were obtained from twelve trees in one season.

— FLOWERS FROM THE SCILLY ISLANDS.—It is stated that "The latest information from the Scilly Islands is that the flower traffic has already commenced in earnest, and that extensive consignments of Marguerites and Chrysanthemums are being despatched. The numerous crops of Narcissi are looking remarkably healthy, and there is but little doubt there will be blooms in the market by, if not before, Christmas."

— BANANAS IN ENGLAND.—According to the opinion of Mr. White of Covent Garden, Bananas are gradually becoming a popular fruit in this country. Still, the English in this respect are far behind the Americans, whose partiality for the Banana is such that in August alone they imported more than one million and a quarter bunches. We get our Bananas from the Canary Islands and Madeira, but it is said that very soon we shall have them from Sierra Leone.

— GOOD VEGETABLES.—We have received from Mr. S. Windsor, The Gardens, Coed Helen, Carnarvon, some excellent samples of vegetables. The Leek sent was particularly fine, the total height of the plant being 4 feet, girth of blanched portion 7 inches, and the length of same 8 inches. Brussels Sprouts were also good, the stalk of "Aigburth" being one of the finest we have seen; "Bullet" was not so big, but well covered with fine firm sprouts. The Beet, Dickson's Reliance, was of excellent shape and colour. An Apple sent is probably a local seedling.

— CALIFORNIAN PEARS.—240 tons of fruit have been sent to England this season from California, says an American contemporary. Of this large amount two-thirds were Pears. The fruit colours finely during the long voyage, and is in best condition for selling when it arrives. No other fruit excepting the Apple and the Orange bears such long transportation so well as the Pear. The flavour of Californian fruit has improved of late years, the growers having learned that too much water for the trees while the fruit is growing increases its size, but impairs its quality.

— FLORIDA ORANGES.—With reference to the paragraph on Florida Oranges in the *Journal* last week, a gentleman of Mandarin, Florida, writes: "We have been sending our Oranges to England for some years past; but they have been sent in the ordinary Atlantic liners—swift, but not fitted for carrying quantities of fruit. The shipment referred to by you is a new scheme. A special fruit steamer has been chartered by a capitalist interested in Florida, and, as you mentioned, sails direct from Fernandina, Florida, to England, thus saving the disastrous reshipment in New York. Last year we did not receive remunerative returns from the Oranges sent to England, chiefly owing to high freights and rotting of the fruit in transit. The new direct shipment is intended to avoid both."

— THE WOLVERHAMPTON HORTICULTURAL SOCIETY.—A report of the Exhibition in July last appeared in our columns, and we then stated that with the fine weather success was assured. This was so, for a profit of £310 on the Exhibition was added to the Society's funds. It has now been decided to appropriate £74 for the purpose of assisting in providing a band during the summer in the Public Park, and £1000 has been voted for the purpose of building a large conservatory in the Park, and this is in addition to benefits already received by the Park Committee from the surplus funds of the Floral Fête. A sum of £200 remains to the credit of the Horticultural Society, in addition to their reserve fund, so that for a Society only in existence four years, a great success has been achieved. A three-days Exhibition has been decided upon for July, 1893.

— THE LOQUAT IN INDIA.—The *Calcutta Englishman* says:—"The N.-W. P. Government is obtaining a consignment of grafts and seeds of the Maltese Loquat for experimental cultivation in India. The cultivation will be tried at the Saharanpur and Lucknow Government gardens."

— NON-SYRINGING AND MEALY BUG.—Two sentences in my letter on page 434 last week are a little ambiguous. They should read, "I do not think one could imagine a house more unlikely to be cleaned; and the Vines were not scraped except about the spurs." The two "not's" were omitted from those sentences.—R. R., *Belfast*.

— HORTICULTURAL CONGRESS AT CHICAGO.—An horticultural Congress will, it is stated, be held at Chicago on August 16th and three days following, next year. The Society of American Florists, the American Seed Trade Association, and the American Pomological Society will hold their meetings in the same city during that month.

— GARDENERS' ORPHAN FUND.—A successful concert was given in the Vestry Hall, Chiswick, recently, in aid of the Gardeners' Orphan Fund. An excellent programme was provided, and the hall was filled with local horticulturists, gardeners, and others desirous of supporting this charitable Institution. A sum of over £20 has been realised through this concert for the fund.

— TULIPS AT THE WORLD'S FAIR.—The Tulip bed in front of the horticultural building at the World's Fair, Chicago, will cover a large space, being cut out in the turf, and will make a gorgeous show of colour in the early spring. The leading colours will be used in masses, always preferable to a mixed border. The bulb borders will be the attraction shortly before the great Pansy display.

— DISEASES OF PLANTS AND FRUIT TREES.—Under the auspices of the Technical Education Committee of the Kent County Council, Mr. W. B. Bottomley, has been giving, and is now continuing, a course of weekly lectures on "Diseases of Plants and Fruit Trees," at Speldhurst. Mr. Bottomley not only endeavours to enlighten his listeners as to facts upon which they are, if not entirely ignorant, at least somewhat dubious, but by encouraging them to ask questions and relate their own experiences, he seeks to give them information.

— THE NATIONAL FLOWER OF AMERICA.—The Americans are yet undecided as to what shall be their national flower. "Half a century ago," says "Meehan's Monthly," "intelligent people were anxious that there should be some national flower, and *Kalmia latifolia* was generally named in that connection. The Golden Rod has been suggested, but there are many plants known by that designation in America, and it appears that no one can determine as to which species should be chosen."

— EXAMINATIONS IN HORTICULTURE.—In connection with the proposed examination by the Royal Horticultural Society of gardeners and students who may wish to sit for examination in different centres, we are desired to say that application for particulars from all persons who are not Fellows of the Society must be accompanied by stamped and directed envelopes if replies are expected. Neither societies nor individuals from whom information is sought by strangers ought to be subjected to a tax in conveying it, or to the charge of a want of courtesy if replies are not sent. Particulars of the scheme in question can be obtained on the terms suggested from the Secretary, Royal Horticultural Society, 117, Victoria Street, Westminster, S.W.

— LARGE TREES.—The opening meeting of the winter session of the Edinburgh Botanical Society was held on November 10th. The President (Dr. Christison) in his address, gave a *résumé* of observations on the size and rate of growth of trees taken by his late father, Sir R. Christison. In mentioning some of the principal British Oaks, he said he believed the Newland Oak in the Forest of Dean, Gloucestershire, was entitled to the honour of being called the King of British Oaks. The Oak in Scotland rarely reached the size and vigorous look so commonly met with in English specimens. The largest was in Lanarkshire, which was 23 feet in girth at the narrowest part. The Beech at Newbattle Abbey was perhaps the grandest tree in Great Britain. Its girth at the ground was 43 feet, and 18 feet 2 inches at 8½ feet from the ground, and the circumference of its foliage 400 feet. It was still quite healthy and gave off dense foliage. Notwithstanding the great diffusion of the Beech over the country, none remained which had attained the giant size of 20 feet in girth at 5 feet from the ground. There were no gigantic Scotch Firs remaining now, the largest he had been able to hear of being about 13 to 14 feet in girth. There was no Ash, either, in Scotland that girthed 20 feet at 5 feet up the stem.

— **AGAPANTHUS UMBELLATUS ALBUS.**—Am I right in supposing there are two distinct plants under this name? "Rectory," page 416, says he cannot get it to flower, and I must confess that I am equally unsuccessful, although I have grown two plants of it for several years. These were obtained from a highly respectable nurseryman. But on page 438 Mr. Edward Costate says he flowers it well by treating it the same as the blue variety. The plants I have would not answer to this treatment, as they naturally die off every autumn, while the blue variety retains the greater part of its foliage and flowers abundantly every year.—W. H. DIVERS, *Ketton Hall Gardens, Stamford.*

— **PROPOSED WINTER GARDEN FOR DUNDEE.**—At the recent Dundee Chrysanthemum Show ex-Lord Dean of Guild M'Grady expressed the hope that before long they might have a winter garden established in one of their public parks. People in Dundee, he said, were very well off now in the matter of public parks, and in the summer time no more health-giving resort could be had than these parks. While the community could either visit these or take a ramble into the country during the summer time, they found that in the winter season they were very much confined. He thought therefore nothing could be more attractive than the establishment of a winter garden in Dundee.

— **STAPELIA GIGANTEA.**—According to the "Kew Bulletin" this Stapelia is now represented at Kew by a specimen bearing six flowers and buds. It is a native of Zululand, where it was discovered by Mr. Plant thirty years ago and sent to Natal, from whence it was sent to England by Mr. Cooper, at that time collector for the late Mr. Wilson Saunders. Although in cultivation so long, there is no record of the plant flowering until October, 1888, when a specimen in the rich collection formed by the late Sir George Macleay at Pendell Court flowered, and was figured in the "Botanical Magazine," t. 7068. The flowers vary in size from 8 inches to 14 inches in diameter; they are coloured pale yellow mottled with red-brown, and are covered with fine whitish hairs.

— **WOOLTON GARDENERS' MUTUAL IMPROVEMENT SOCIETY.**—At the last meeting of this Society a very good idea was tested. A "question box" is provided, in which anyone can place a written question. The questions are taken out and answered if possible by the members present. The plan answered very well. Mr. J. Glover, gardener to Sir A. B. Walker, Bart., Gateacre Grange, then read a sound practical paper on the "Cultivation of the Bouvardia," and the following varieties—of which he had specimens on the table—were recommended:—President Garfield, double red; President Cleveland, Alfred Neuner, Hogarth, Priory Beauty, Vreelandi, Jasminoides, and Humboldti. The double varieties he more especially recommended owing to their lasting properties.—R. P. R.

— **THE OPENING OF KEW GARDENS.**—The desirability of the earlier opening of the Royal Gardens, Kew, was discussed at the meeting of the Richmond Town Council on Wednesday, November 16th, and, as the result, the following resolution was unanimously passed:—"That a deputation, consisting of six members of this Council, be appointed to wait upon the First Commissioner of Works on a day hereafter to be arranged to make a humble request that the Royal Botanic Gardens at Kew be opened daily for the admission of the public at 9 o'clock A.M. This Council is of opinion that the Government by granting this concession would be acting in the interest of botanical science, saving visitors from distant parts of the kingdom much disappointment and loss of time, while it would confer a much-coveted boon upon those living in the neighbourhood and in the metropolis."

— **ENGLISH FRUIT IN INDIA.**—The cultivation of English fruit in the neighbourhood of Simla is about to be tried on a very extensive scale. During the next seven years, says an Indian magazine, the Punjab Government is prepared to carry out a scheme for its careful cultivation, the annual cost being estimated at 2000 rupees. Large gardens are also being planted near Naini Tal, Almorah, Raniket, and many parts of the Himalayas. Kashmir has always been celebrated for its delicious fruits, its Apples, Pears, Grapes, Apricots, and Walnuts. On the Nilgiris also most of these fruits flourish. At Ootacamund, Coonoor, and Kotagiri, may be found examples of carefully kept gardens where, in that perfect climate surrounded by lovely masses of English flowers, English fruits flourish luxuriantly. Even the wild fruits of England, such as Blackberries and Raspberries, grow in quantities on the hillsides and among the bracken; and wild Strawberries are also to be found there.

— **NOVA SCOTIAN APPLES.**—At the opening of the Dundee Chrysanthemum Show recently Mr. Low, in referring to a collection of Canadian and Nova Scotian Apples, said: "Unfortunately we in this country could not produce anything equal to these either in quality or in variety, but we were closely connected with the colonies, and it was very pleasing to know that those on the other side of the ocean are able to place in the market such splendid fruit." The above remarks may apply to Scotland, but they certainly do not to the British Isles generally. At Earl's Court and elsewhere this year I have seen some magnificent collections of splendidly coloured Apples that could hold their own with any produced in the colonies. What say other Britishers?—C.

— **BLUE TITMICE AND FRUIT BUDS.**—I notice our old friend, "A Lanarkshire Bee-keeper," falls foul of these little busybodies as "scourgers of Currant and Gooseberry bushes and devourers of becs." As this is quite contrary to my observations in both respects, I most respectfully ask for the observations of other readers. I have watched them as a practical observer, in both respects, for forty years, but can safely say I never found them injure either. I have seen them tear open buds on Pear trees, and have driven them hastily away and climbed 20 feet or more to examine the identical bud, and found it contained a "worm i' the bud" which "Tommy" was bent on fetching out. They are the best scale destroyers we have, either on fruit, Ash, or Sallow. They are also among our best friends for destroying caterpillars and aphides. The only birds which take my fruit buds are house sparrows and bullfinches. I have caught twenty-four of the latter in trap cages in my garden lately.—J. HAM, *Astwood Bank.*

— **LIVERPOOL HORTICULTURAL ASSOCIATION.**—Last Saturday evening the first meeting of the session was held in the Committee Room, Wm. Brown Street. W. Fletcher Rogers, Esq., the Hon. Treasurer, presided, and there was a good attendance. Mr. Thomas White, the Chairman of the Association, read a paper on "Bulbous Plants," dealing with the Hyacinth, Tulip, Crocus, Narcissus, Scillas, Ixias, and others, tracing their history and varieties. Messrs. Sargent, Ranger, and Ker took part in the discussion, the latter dealing especially with the early cultivation of the Tulip. Mr. Harrison, Knowsley Hall, followed, and gave some interesting details of bulbs grown outdoors at Knowsley, mentioning *Vallota purpurea*, *Lilium giganteum*, and others. A suggestion was made by Mr. Ker that more of the Liverpool gentlemen should be induced to attend the winter meetings, and it was hailed with evident satisfaction by all present. A vote of thanks to the lecturer and the Chairman brought the meeting to a close.—R. P. R.

— **CYCLAMENS AT READING.**—While at Reading Show last week I seized the opportunity of visiting Messrs Sutton & Sons' nurseries to see the Cyclamens of which I had heard so much praise. I was astonished and delighted by what I saw. The sturdy plants were carrying a profusion of beautiful flowers. Several houses are devoted to them, though the plants are not yet all in bloom, they being in various stages of development. Amongst the most noticeable in flower was a new variety named *C. persicum* Salmon Queen. This is one of the most charming in the whole family. The colour is a delicate salmon shade, and when sent out this variety will doubtless quickly become popular. Vulcan was another exceedingly striking variety in bloom. The flowers of this are dark crimson, and perfect in shape. Butterfly is a charming white, and with Vulcan and Salmon Queen form a most beautiful trio. In the structure devoted to the giganteum section Giant White was decidedly the most prominent. It is a grand strain, the flowers being of the purest white, and absolutely faultless in shape, standing well above the foliage. The Giant Crimson and White is also very striking, the upper part of the flowers being pure white and the base bright crimson, forming a most pretty combination. Giant Rose was also in splendid condition. These plants, Mr. Martin, Messrs. Sutton & Sons' skilful grower, told me had been taken to Cheltenham and Gloucester, the results of which were recorded in the *Journal* last week, and yet the foliage and flowers were remarkably fresh. I would advise any of your readers who happen to be in or near Reading, to call and see these Cyclamens.—H. J. W.

THE MUSTARD BEETLE.

MR. F. ENOCH has contributed some interesting and valuable notes on this insect to a recent number of the "Entomologist." He believes that at present this pretty but destructive beetle is steadily on the increase in the Mustard-growing districts, where not unfrequently it ruins the entire crop. This species, *Phædon cochleariæ*, or *betulæ* less correctly, was first found doing serious mischief near Ely in 1854, though there is a passing notice of it in Curtis's "Farm Insects" of 1841. During June Mr. Enoch, from "information received," was led

to visit the Mustard fields in Cambridgeshire and Suffolk, where he soon made acquaintance with vast armies of the foe busily attacking both brown and white Mustard. He was impressed with the fact that not only does the larvæ or grub of the species devour the Mustard just as the beetle itself does, both were at work together; the plants were blue with the elytra of thousands of beetles, and besides them were hosts of young larvæ, rapidly reducing the leaves to skeletons! Having an ordinary bag-net with him, Mr. Enoch began to beat the drills for about fifteen minutes, boxing the captives he had made that he might count them afterwards. On examination he found that in this short time he had beaten out upwards of fifteen thousand! The eggs were not difficult to detect, being on the under side of the leaf, but the parent ingeniously scrapes a slight hollow in the cuticle, and by this means each egg is protected from harm should the plants be blown about. On a single leaf he counted as many as 700 odd eggs, and a plant he examined had no less than 9234! In company with these beetles were also many caterpillars of the diamond-back moth (*Plutella cruciferarum*), making it all the worse for the unfortunate plants. Mr. Enoch is not prepared to suggest any special remedy for this insect, but he believes the number of beetles might be greatly reduced by use of a sweeping net at the right time, as they fall into it readily, being most sluggish.—ENTOMOLOGIST.

ROYAL HORTICULTURAL SOCIETY.

NOVEMBER 15TH.

SCIENTIFIC COMMITTEE.—Present: Mr. McLachlan (in the chair), Mr. Morris, Dr. Miller, Dr. Russell, Rev. W. Wilks, Prof. Green, Prof. Oliver, Dr. Bonavia, Mr. Wilson, Prof. Church, Rev. G. Henslow, Hon. Sec.

Injury to Plants by Fog.—In accordance with the proposal of the Scientific Committee made at the last meeting, the Council of the Royal Horticultural Society have passed the following resolutions in reference to the investigation of the nature and injuries to plants by fogs.

1, That the Royal Horticultural Society, through its Scientific Committee, having devoted considerable attention to the effects of London fogs on cultivated plants, is of opinion that the increasing prevalence of these fogs is causing great inconvenience and loss to horticultural interests within the metropolitan area; and as these interests are associated with one of the largest and most important enterprises of plant cultivation under glass carried on in any part of the world, it is a matter of the greatest importance that the circumstances connected with the chemical compositions of these fogs, their origin and extent, the amount of sulphurous acid contained in them, as well as the diminution of light caused by them, should be carefully and exhaustively investigated.

2, This Society, being also of opinion that London fogs are detrimental to public health, and are calculated to render London an undesirable place of residence for many months of the year, as they interfere with trade and public business, and cause serious loss to the community generally, invites the co-operation and support of kindred societies and all organisations interested in the subject, in a representation to the London County Council to institute an inquiry into the causes and circumstances of these fogs, with the view of reducing their injurious character, or if possible removing altogether the causes which have led up to them.

On the suggestion of the Scientific Committee the Council agreed to set apart one of the propagating pits at the Chiswick Gardens, for the purpose of carrying out experiments during the current winter to mitigate the effects of fogs on cultivated plants. It was also agreed to inform the Chiswick Board of this arrangement, and to request the Superintendent to give what assistance he could in carrying out the suggestions of the officers placed in charge of the experiments.

Dr. Russell stated that he thought it would be of great importance with regard to the fog question if a comparative and simultaneous series of determinations of the amount of light could be carried out at once, both in the City and outside London, in order to thus obtain a more exact idea of the enormous loss of light experienced in the City during the winter months. With the object of familiarising himself with the method adopted by the Manchester Committee, he was experimenting with their process.

Garden Labels.—Mr. Morris remarked on the difficulty of finding any material suitable for labels. They had tried a great variety at Kew, but the best in being most durable was a strip of lead with the name stamped upon it. He exhibited a sample from the garden of A. Cushney, Esq., Pains Hill Park, Cobham, dated 1774, on which the name "White Magdalen Peach" appeared to be as sharply indented as at first. It is said, however, that the lead of the present day, in consequence of its being purer through desilverisation, would probably not last so long.

Lilium auratum.—Mr. Wilson mentioned that a single bulb of this plant in his garden had thrown up eight flowering stems. When dug up it was found to have developed seven good well-formed and large bulbs. It grew in a good vegetable and loamy soil.

Wellingtonia Infested with Fungi.—Specimens of fallen leaves and shoots of this tree were sent from the gardens, Orton Hall, Peterborough, with numerous small white agarics growing upon them. It proved to be *Mycena hyemalis*, *Osbeck*.

Alder Leaf Perforated.—Mr. Wilks showed a dead leaf of Alder very symmetrically perforated with two series of holes. It was most probably due to a sudden chill on the expansion of the buds in spring. A similar occurrence is not infrequent in Horse Chestnut and other leaves from such a cause.



SOME OF THE NEWER ROSES.

I HAVE been very pleased with the notes on Roses by W. R. Raillem, which he has given in the *Journal of Horticulture* at different times. His description of varieties are so good that anyone wanting Roses should have no difficulty in selecting good reliable sorts from his list.

In his recent notes on newer Roses (page 394) he did not mention Madame Hoste. This and Ernest Metz I consider among the best that have been sent out lately. Madame Hoste is a fine exhibition Rose, and is equally good for all other purposes, giving an abundance of first-class blooms. We had Ethel Brownlow three years before it produced a bloom fit to cut, but this year it has done well, giving several first-class flowers; but it has never grown strongly with us. It is an excellent exhibition Rose when it comes good, but it is not free enough to recommend for general purposes. Souvenir de S. A. Prince is one of the newer Roses. It is a good grower, free bloomer, with an agreeable fragrance, pure white, and opens well in all weathers.—J. L. B.

EARLY MARÉCHAL NIEL ROSES.

ON the resplendent beauty of this Rose there is little need to dwell, as for years past it has been an object respecting which rosarians of widely diverging opinions have united in expressing unqualified admiration. Unrivalled for brilliancy of colour, faultless in shape and form, combined with fragrance that leaves nothing to be desired, it is unsurpassed by any other Rose of its class. Its robust constitution, too, is quite in keeping with its other good features. Its growth is strong and vigorous, its flowering qualities are of the freest, and its general stamina is excellent. For these reasons its position among the limited number of Roses suitable for flowering at Christmas may be considered impregnable. Nothing will serve to show the popularity of this variety in a better light than a glance down the list of market prices towards the end of the year. The superior price which the flower-loving public is willing to pay for Maréchal Niel Roses is a tribute to its value that speaks more eloquently than words.

Whatever may be the failings of this Rose when cultivated in the open air (and in this respect I am aware it is not without detractors) there is nothing uncertain in its habits when treated generously under glass. It is there, no doubt, that we see it at its best. Certainly it only gives one crop of flowers each season, but it must be admitted that it produces an immense quantity, and by judicious management it is possible to prolong its period of blooming for a considerable time.

For early flowering there can be no question as to the decided advantage which plants in pots possess over those planted out. When in borders they are liable to various complications from which the potted plants are entirely free. These are so obvious that they can be seen at a glance. The plants are under entire control, thus enabling the cultivator to keep them in any required state of moisture, and the roots are prevented from penetrating into unsuitable soil when in pots. This is a great check to canker as a rule. Moreover, Roses in borders are more or less fixtures in the house, while plants in pots can be removed to different atmospheres and temperatures as the occasion may require. As a means of securing well-ripened wood, what is equal to a removal outdoors after growth is completed? This becomes an easy matter when the Maréchal Niel is cultivated in pots.

Unless the growths are thoroughly matured and ripened the best directed efforts can only end in disappointment. The eyes, instead of producing plump buds, reward us for our pains with nothing but blind growths. Large plants in borders sometimes act in this manner, but there is no reason whatever why plants in pots should suffer from this cause. As the new growths begin to push the old leaves remaining gradually turn yellow and fall off.

SEASONABLE NOTES.

At this time of year, perhaps the greatest hindrance to success is want of light. The long nights and short gloomy periods of daylight are evils incidental to the season, and therefore unavoidable. The mists and fogs that abound all tend to intensify troubles of this nature and to make matters worse. But much may be accomplished to minimise the damage done. In this district (Enfield) we are badly afflicted with fogs, which arise from the marshes that bound us on the east. This has induced some good growers to defer their efforts in Rose culture to a later and brighter season of the year. Fogs bring in their train a host of evils, among which I may mention mildew, utter cessation of growth, crippling of the foliage, and decay and deformity in the flowering buds. The treatment just now should all point towards counteracting these after effects. The nasty deposit left on the glass, and which places the occupants of the structure in a sort of twilight, must be washed off as often as it appears.

Vexatious as this process undeniably is made by frequent repetition, nothing less will serve to keep matters straight inside just now. A little top ventilation when the opportunity occurs should be given to admit fresh air and to allow the stagnant atmosphere to escape. Root-watering

and damping will need to be performed cautiously, but the hot pipes can be steamed and the atmosphere kept in a moist condition under the most unfavourable circumstances. In foggy weather an even temperature should be maintained and excessive heat avoided as likely to do more harm than good, and if the plants are kept as close to the glass as they can be placed with safety the chances are all the more in their favour.—**ENFIELDIAN.**

NEW VIOLAS.

Now the Viola has become an established favourite for decorative work, a few words as to the new varieties now being introduced may be welcome to many. Before alluding further to them, however, I may just throw out a hint as to what delightful pot plants they are early in the spring for greenhouse decoration. It is only necessary to put a few plants into 5 or 6-inch pots according to the strength of each plant, keep them in a cold frame during the winter; or pot them in February or March and grow them in a cold frame until they begin to show their buds, then remove to the greenhouse. The Viola is essentially a welcome spring flower, for it is so early in blooming, so varied in colours, excellent for cutting for glasses, and so many varieties are deliciously fragrant.

The immense popularity of the Viola is strong evidence of its value as an outdoor decorative plant, and new varieties are plentiful, so many now devoting themselves to the raising of seedlings. Messrs. Dobbie and Co. have persistently for a few years brought the Viola into notice, and some good sorts have emanated from Rothesay, and this autumn they sent out five new varieties of considerable promise. One is named Peter Barr, after a well known honoured horticulturist, and has received three certificates. Lemon Queen, Edina, Rob Roy, and White Duchess also are introduced by Messrs. Dobbie. Other new varieties are expected from the Kyles of Bute, as I understand that some of the Belfast seedlings are to be sent out from there.

I sent you notes not long since of Dr. Stuart's and Mr. George Steel's new varieties of miniature Violas and others, also of some very fine seedlings from Belfast, and I have recently received from Mr. Stuart of Belfast blooms of Mary Stuart, which closely resembles Bridesmaid, but is a little lighter in colour, and a first-class variety. Another named Mave Roe (in the Irish language "White Maid") is a French white, slightly flushed with lavender, and of fine form. Other promising seedlings also accompanied them.

We certainly are on the right track for many lovely acquisitions in spring; but some are procurable now.—**W. DEAN, Sparkhill, Birmingham.**



THE NATIONAL CHRYSANTHEMUM SOCIETY.

THE remarks which have been circulating lately in reference to our head Chrysanthemum Society lead me to suggest that it behoves the executive to be on the alert to avoid that loss of public confidence which is the breath of life to any society, and which once lost can hardly by any exertions be restored. In matters horticultural it is a decided advantage to have a central authority whose decisions are as unimpeachable as is possible with poor humanity, and which at any rate shall be absolutely above the suspicion of being influenced by favouritism or self interest; this being so I hope every lover of the Chrysanthemum will abstain from any course likely to bring discredit upon the Society, and endeavour to strengthen the hands of the management in every way possible. With this object I may suggest that the position of the Society would be immensely improved in the eyes of the country at large if steps were taken to widen the basis of the Committee by an infusion of fresh country blood, and do away with such sarcasms as "London clique," &c., which are at present much too frequent. Country members could not of course attend meetings with the regularity possible to those living near town, but travelling becomes more easy and general every year, and genuine enthusiasts, who are to be found in every large town in the country, would, if elected, be seen at the table often enough to be a help and strength to the Society, and be the means of keeping it in touch with the principal provincial centres.

While on the subject of reforms I would, in common with many others, like to know if every possible effort has been made to secure a better place of meeting than the dismal one in which the Shows are now held. I would especially draw attention to the injustice that may be done to novelties by adjudicating upon them in a place where the light is so bad that the best eyesight cannot tell a white Chrysanthemum from a yellow one, thus practically restricting judgment to two of the three qualities which go to make a perfect bloom—viz., size and form—leaving colour, which is of equal importance, almost entirely out of the question. I hope these matters may be taken up in a practical spirit to the lasting benefit of the Society.—**CHAS. E. PEARSON, Chilwell.**

KINGSTON AND SURBITON.

THE Committee of the Kingston and Surbiton Chrysanthemum Society have decided that their next Exhibition will be held on November 7th and 8th, 1893, and Judges are chosen to officiate on the occasion.

DERBY CHRYSANTHEMUM SHOW.

WE are informed that the prizewinners of £10 to £8 and £6 in the class for forty-eight blooms were won by Messrs. W. & G. Drover, Fareham; Mr. Evans, gardener to Sir Henry Wilmot; and Mr. Goodacre, Elvaston, respectively, in very close and excellent competition. The Show was held on the 11th and 12th inst.

A NEW CHRYSANTHEMUM SOCIETY IN BELGIUM.

A SOCIETY has just been founded in Brussels under the title of the Société des Chrysanthémophiles. The work undertaken by it, the promotion of knowledge concerning the culture, propagation, hybridisation, diseases, and insect foes of Chrysanthemums. The President is M. F. de Lombaerde; the Secretary M. François Peeters.

READING CHRYSANTHEMUM SHOW.

WE are requested to state that Mr. Garner, The Gardens, Amberwood, Christchurch, was awarded the second prize in the class for forty-eight cut blooms at Reading Chrysanthemum Show, and not third, as given in our report last week. Mr. Garner has also succeeded in finally winning the silver challenge cup at the Lymington Chrysanthemum Show, and several medals at other Exhibitions.

CHRYSANTHEMUMS AT BARKBY HALL, LEICESTERSHIRE.

MR. BROOKS, the proprietor of this seat, has one of, if not the best, collections of Chrysanthemums in the country; and the Leicester and Midland Chrysanthemum Society, which was fortunate enough to secure Mr. Lansdell, the head gardener, as judge, and by the same act unfortunately lose an extensive and strong exhibitor. This week I had the pleasure of looking over the "mums" under his care, and was deeply impressed by the very healthy look of the plants, also by the excellence of the blooms. The incurved varieties are the best I have seen in the county this season. Amongst others were Queen of England, Lord Alcester, Golden Empress, Alfred Salter, Mrs. Coleman, Princess of Wales, Miss Haggis, and Lord Wolseley. Half a dozen blooms of any of these could be cut quite up to exhibition mark. The Japanese have grand representatives in Mrs. E. W. Clarke, Vivian Morel, Sunflower, Comte de Germiny, Avalanche, Edwin Molyneux, W. W. Coles, Macame Baco, George Daniels, Puritan, Gloire de Rocher, Val d'Andorre, and W. H. Lincoln, some of which could give a dozen specimen blooms; while of Etoile de Lyon fully twenty blooms could be cut as fine as any I have seen on a show board this season. Stanstead White is remarkably good, so are Mrs. Irving Clark, Sarah Owen, Madame J. Laing, and Madame Marie Hoste.

Mr. Lansdell has several rather pleasing sports, two of which are likely to prove acquisitions; the first being a bronze sport of Boule d'Or, and the second a pure yellow one of Maiden's Blush.—**W. BELL.**

THE TWICKENHAM SHOW.

IN the interest of gardeners in this district may I call attention to the following circumstances? I went by train on the evening 15th inst., arriving at the Town Hall about 7 P.M. The charge at the door was 1s., which I paid. After inspecting the plants in the large room I went to the rooms above to see the cut blooms, fruit, vegetables, and other exhibits, when, to my surprise, also to the surprise of other visitors, the police ordered us out of the hall and locked the doors of these two rooms. On arriving at the bottom of the staircase there sat the Honorary Secretary, who informed us that we might have re-admission to the large room, where a concert was about to commence, by paying an additional 2s. 6d. Myself and others had come to see the exhibition, but were prevented doing so, and had to leave the hall by 7.30. To advertise the show without publishing the conditions on which it can be seen appears to me very extraordinary. I paid to see the exhibition and was abruptly turned out before seeing it. Enclosed please find a schedule with the balance sheet for 1891. I see that the Horticultural Society are charged with a concert to the amount of £17 7s., and that the takings at the door amounted to £18, tickets sold £1. I think gardeners should be made aware of these facts. I also enclose a copy of an advertisement cut from the *Surrey Comet*.—**G. S.**

[The advertisement announces the show and also mentions evening promenade concerts, but neither states the time for opening and closing the rooms, nor the price of admission to either the show or the concert. It is signed by the Honorary Secretary of the Horticultural Society. The accounts were audited by Messrs. G. J. Duncan and W. Bates, members of the Committee, and are no doubt correct. We presume the prices for admission were published on handbills or in some other way. There is certainly no mention of them in the advertisement before us.]

CHRYSANTHEMUMS AT THE BIRMINGHAM GARDENERS' ASSOCIATION.

AN "Exhibition night" of the Society took place on the 14th inst., when new Chrysanthemum blooms and a discussion were invited. Mr. Robert Owen, Maidenhead, sent a few new sorts, but evidently grown on small plants. A daylight inspection next morning enabled the following notes to be taken:—The Bride, incurved, pure white, a beautiful flower of first-class quality; a certificate was awarded to it. Seedling

Incurved A. 42, a distinct golden bronze or brass colour, a shade known as old gold; florets rather narrow, but well incurved and promising. Robert Pitfield, incurved, rosy lilac, with a lighter, silvery shade of colour; a fine, distinct variety. Baron Hirsch, incurved, reddish chocolate, tipped with bronze; a handsome, bright, and distinct flower of fine form. John Fulford, incurved, was not in good character and sufficiently open. Lucy Kendall, incurved, a sport from Violet Tomlin; very pretty in colour, but the flower was small and not in character. Incurved Japanese Viscountess Hambledon, delicate pale lilac, flushed with white, a satin-like surface. An incurved Japanese, a very promising flower of a warm, rich, bronzy orange tint, was also sent; a pleasing distinct shade of colour, with broad florets and fine form.

A bloom of a seedling marked "White Fringed" was also sent, and which reminded one of old "Marabout." It is a new type, the flower pure white, nearly half globe shaped, and that sent was 3 inches in diameter, very double, each floret being quilled as in the flowers of the double *Gaillardia picta Lorenziana*, with *Bouvardia*-like segments at the points, and it is a pleasing flower. A cultural certificate was awarded to three very fine blooms of Colonel B. Smith, a fine Japanese variety sent out last year by Mr. C. E. Harvey. A cultural certificate was also awarded to Mr. Didcott for two dwarf plants of W. H. Lincoln from cuttings struck at the end of May, and were about 18 inches high, with three good blooms on each.

[Chrysanthemum growers will naturally wish to know whether the certificates referred to were awarded to single blooms, or two or three of each variety.]

CERTIFICATED CHRYSANTHEMUMS.

A MEETING of the Floral Committee of the National Chrysanthemum Society was held at the Royal Aquarium, Westminster, on Wednesday, November 23rd. Many new varieties were brought on the table, but the majority of them were passed. First-class certificates however, were awarded as follows:—To Mr. E. Molyneux, Swanmore Park Gardens, Bishop's Waltham, for Mrs. Mitchell, an incurved variety that has already been described in these pages; to Messrs. H. Cannell and Sons, Swanley, Kent, for Kentish Yellow, a charming reflexed Japanese of a bright yellow colour; to Mr. R. Owen, Maidenhead, for Waban, an incurved Japanese, large in size and rosy mauve colour, light centre; Robert Owen, an incurved Japanese of a rich apricot shade, very telling; and Mrs. Bruce Findlay, a light pink Japanese, with narrow florets; to Messrs. Pitcher & Manda, Hextable, Kent, for Primrose League, a creamy white Jap with a yellow centre.

Several varieties the Committee wished to see again, including Southern Beauty, a Japanese resembling Lizzie Cartledge, from Messrs. H. Cannell & Sons; Garnett, an incurved Japanese from Mr. E. Rowbottom, The Priory, Hornsey; Frank Webb, an incurved variety shown by Mr. Wells, Earlswood Nurseries, and Mrs. Dr. Ward an incurved Jap from Messrs. Pitcher & Manda. Tribune (yellow) and Mrs. W. Cutting (rose colour), incurved Japs, shown by Messrs. Pitcher & Manda were commended. Mr. C. E. Shea, The Elms, Foot's Cray, sent a number of novelties.

LORD BROOKE.

THE variety which fig. 62 represents was sent out last season, but it was then known to comparatively few, and even during the present season it has not been seen on so many occasions as to warrant the assumption that it is yet well known to the public. Few more distinct Chrysanthemums have been introduced, and if it manifests the improvement that may reasonably be expected of it another year it will soon find a place in the front rank. If, like Mons. Bahuant, it could be fairly classed amongst the incurved, its value would be greatly increased; but this is extremely doubtful. So far it displays too strongly the characters of a genuine Japanese-incurved to be eligible for the pure incurved section. The florets are of enormous substance, being very broad and thick, excelling those of the substantial variety just named. Messrs. Pitcher & Manda, the introducers of the variety, showed a bloom at the Crystal Palace Show, where no certificates were awarded for single blooms. Mr. Rowbottom of The Priory Gardens, Hornsey, has produced some very fine flowers, from one of which our illustration was prepared. Messrs. Cannell & Sons also had bright examples at the last Drill Hall meeting, when the R.H.S. gave an award of merit to the variety.

The colour may be described as rich apricot smeared with crimson, a combination which sounds distinctive, and which is as beautiful as it is novel. The plant is a sturdy grower, medium to dwarf, with very broad substantial foliage. As a good grower and a variety with many distinct characters we shall await the appearance of Lord Brooke next year with considerable interest, for there appear to be in it the qualities that constitute a distinct acquisition.

CHRYSANTHEMUM SHOWS.

NEW YORK (U.S.A.).—NOVEMBER 1ST TO 7TH INCLUSIVE.

THIS large Exhibition, held in the Madison Square Gardens under the auspices of the New York Florists' Club, was a pronounced success. The *élite* of the City attended. The building is an excellent one. It is

an immense size, arena shape, lofty, surrounded by boxes or stalls, balconies and galleries. It has a fine glass roof, and is well lighted with electricity, which, aided by the coloured lights and Japanese lanterns, a lofty fountain playing in the centre and surrounded with Palms, and the bright display of the Chrysanthemums, the drapings and festoons of the autumn leaves, Conifers, garlands of Clematis and Ivy, helped to produce a fairy-land aspect. The New York Florists' Club liberally awarded £1300 in prizes.

As the visitor enters the main entrance he stops at the large group of Palms and foliage rather heavily arranged by Siebrecht. Surrounding this are circular groups of standard and pyramid trained specimens of Chrysanthemums. Several were a credit to the cultivator, but on a whole needed improvement in culture and training. Following on are the numerous tables arranged in semicircles, and upon which are shown in enormous glass and earthenware vases large numbers of cut blooms of the leading varieties bunched in separate colours.

The flowers were exhibited with their foliage, the stems being 4 to 5 feet long, and had a fine and natural effect. This is a style Britishers might adopt with success. The method in cups and tubes is not looked upon with favour here. On each side groups of Chrysanthemums in pots were staged. Particularly striking were dwarf well-foliaged plants in 5 and 6-inch pots. The plants were from late-struck cuttings and carried grand flowers. After passing an immense group of Palms and other plants corresponding with the other end of the building, I paused to look at the striking exhibit made by Messrs. J. H. Small & Sons, florists, of Washington, who have just opened a branch in this City. The entire east end of the room was occupied by this exhibit.

In the centre was an enormous Columbus arch 45 feet in height and covered with white cloth. The panels of the sides and the top corners were inset with Ivy, and in the centre of each a Japanese fan of Chrysanthemums. The arch was surmounted with miniature representations of Columbus's fleet. On the right of this was an elaborate decoration of a church wedding, chaste and pretty, surmounted with white and pink Chrysanthemums like a canopy. Then on the left a life-like model reproduction of the capitol at Washington. It was 20 feet by 12 feet high, and is covered with light green cheese cloth. The whole is surmounted by a gilded Goddess of Liberty. It was the work of a clever young English boy, and done entirely from a photograph. Orchids and collections of plants were shown well by several firms. Cannas were also exhibited in splendid condition.

Seedling Chrysanthemums were exhibited at the close of the Show, but as this report is being written during the first days of the Exhibition, I have not yet (at the time of writing) had an opportunity of ascertaining what advance has been made by our Yankee cousins. I must state, however, that Golden Wedding of Peter Henderson & Co. is by a long way the finest and largest golden yellow Japanese incurved I have ever seen. It was awarded the first prize for the best variety in the Show. Messrs. John Laing & Sons, Forest Hill, have secured the European control of this grand sort.

Amongst the English trade visiting the Show I noticed Mr. Waterer from Messrs. John Waterer & Sons, Bagshot; Mr. A. Duminck of Messrs. F. Sander & Co.; Mr. A. Ingram from Messrs. Hugh Low and Co.; and Mr. J. H. Laing from Messrs. John Laing & Sons, Forest Hill. —VISITOR.

ISLE OF WIGHT.—NOVEMBER 8TH AND 9TH.

THE advantages of a late season was plainly visible in both the cut flowers and plant classes, and the present must be considered the best of the many excellent exhibitions held by this long established and extensively patronised Society.

With the exception of the nurserymen's classes all was above the average, the cottagers' especially, and though some of these have only verandahs or some temporary structure to bloom their plants the majority of the cut blooms staged would have done credit to any first-class exhibition. A bloom of M. H. Bahuant, exhibited by a cottager (Mr. Jacobs) and produced under a verandah, was one of the best of the kind we have seen this season. The same exhibitor had remarkable blooms of Japanese a long way ahead of anything we are accustomed to see shown by cottagers.

In the open class for twenty-four blooms, distinct, twelve Japs and twelve incurved, Mr. Wilkins, gardener to W. Ridley, Esq., was deservedly awarded the first prize, staging large and handsome blooms of F. Davis, Mrs. J. Clark, Mr. E. W. Clark, Vivian Morel Comtesse de Beauregard, Belle Paule, Etoile de Lyon, W. G. Drover, Golden Dragon, Mdle. Marie Hoste, Madame Clemence Audiguer, and Boule d'Or. His incurved were Jeanne d'Arc, Golden Empress, Queen of England, Lord Alcester, Jardin des Plantes, John Doughty, Miss M. A. Haggas, Princess of Wales, Hero of Stoke Newington, Charles Gibson, Alfred Salter, and Nil Desperandum. Mr. Gash, gardener to Sir B. Simeon, was a very fair second; and Mr. Tolley, gardener to S. E. Ridley, Esq., a close third.

Mr. Wilkins was also first for twenty-four incurved—a very fine stand; and Mr. Gash a good second. For twenty-four Japanese there was a very spirited competition; first honours fell to Mr. Miller, gardener to Mrs. Brook-Firman, East Cowes, for a splendid collection, consisting of Mons. Bernard (good), George Daniels, W. W. Coles, Condor, Val d'Andorre, Etoile de Lyon, Ralph Brocklebank, Condor, Puritan, Gloriosum, Baronne de Prailly, Sunflower, Avalanche, Vivian Morel, Edwin Molyneux, M. Baco, Mrs. J. Wright, W. Stevenson, Stanstead

Surprise, Sarah Owen, Eynsford White, M. Baco, and W. H. Williams. Messrs. Sheppard and Gash were second and third respectively. All the other cut bloom classes were well contested.

Coombs, Blake, Cheverton, and Williams in the cottagers' classes. The arrangements were admirably carried out by the Committee, prominent amongst which were Dr. Groves, J.P., the Chairman; Dr.



FIG. 62.—CHRYSANTHEMUM LORD BROOKE. (*From a Photograph.*)

Messrs. Linnington, Cooper, and Matthews were the most successful exhibitors in the amateurs' classes; and Messrs. Jacobs, Tomlinson,

Coombs, the Treasurer; Mr. Cave and Mr. Horace Groves, the energetic Secretary.

CARDIFF AND DISTRICT.—NOVEMBER 9TH AND 10TH.

THE above Society had a most successful Exhibition. The cut blooms throughout were of a high order of merit, though a week later would have found the incurved stronger. Ten entered in competition for the class for forty-eight blooms, not less than thirty-six varieties. Sir Chas. Philips, Picton Castle, Haverfordwest (gardener, Mr. Dumble), stood first with superb blooms. His best incurved were John Doughty, Alfred Salter, John Lambert, Prince Alfred, Lord Aleester, Mons. R. Bahuant, and a magnificent Mrs. Robinson King. Japanese: Mrs. J. S. Fogg, Mrs. Alpheus Hardy (splendid), Florence Davis, Boule d'Or, Avalanche, Vivian Morel, M. A. E. Carrière, Mrs. F. Jameson, Puritan, and a very fine Mrs. Libbie Allen. T. J. Masters, Esq., Llantrissant (gardener, Mr. Howe), was second; and V. Stuckey, Esq., of Langport (gardener, Mr. J. Lloyd), was third. Many good blooms were noticeable in the unsuccessful stands, the Japanese being decidedly the best.

Mr. Howe was first for twenty-four distinct varieties, Mr. J. Lloyd taking second. For twelve Japanese in the amateurs' class Captain Marling, Lydney (gardener, Mr. McDonald), was first with a capital stand, Vivian Morel being particularly fine. J. Howells, Esq., The Walk, Cardiff (gardener, Mr. Horton), was second; and Mr. Lloyd third. Mr. McDonald was first also for twelve incurved; Mr. Lloyd second; and Col. Page, Llandaff (gardener, Mr. Hockey), third. Twelve Anemones failed to draw more than one competitor, Mr. Dare, gardener to Nugent Wells, Esq., Newport, who was awarded a prize. For six of one variety Mr. Dumble took first prize with superb blooms of Madame Baco; the Earl of Lisburne (gardener, Mr. Williams) taking second with very fine blooms of Mdle. Lacroix. Two special prizes were awarded for the best single blooms. One was taken by Mr. Dumble, and the other by Mr. Williams, gardener to Lord Lisburne, both showing Vivian Morel, somewhat light in colour, but of large proportions and fine in quality. A challenge cup, given for the best twenty-four distinct varieties, was won by Mr. Dumble, and followed by Mr. Williams.

Groups of Chrysanthemums arranged for effect were numerous and good. Mr. Drake was first, followed by Messrs. Treseder and Case for second and third. The first prize for group in the amateurs' class was taken by Mr. Hockey with dwarf and well-furnished plants, carrying good heavy blooms. Mr. Pinches, gardener to J. C. Hacquoit, Esq., was second. Mr. Clarke, gardener to Col. Sir Edward Hill, Bart., of Llandaff, was first for group of miscellaneous plants; and Mr. Ryder, gardener to M. Gunn, Esq., Llandaff, second. Mr. Ryder and Mr. Kelly were successful for foliage Begonias, very large specimens being exhibited. Mr. Malpass, gardener to C. E. Jenkins, Esq., Penylan, took first for stove and greenhouse Ferns; whilst for Ferns in 6-inch pots Mr. Rex, gardener to C. Waldron, Esq., was first.

Fruit was well shown. Mr. Spencer was first for a collection, Mr. Lloyd second, and Mr. Boudege, gardener to Col. Gaskell, Newport, third. Mr. Spencer, Mr. Julian, and Mr. Kelly were successful with dessert, and Mr. Hockey, Mr. Spencer, and Mr. Julian for culinary Apples. Pears were best shown by Messrs. Julian, Hockey, McDonald, George Hawkins and Boudege. Mr. Lloyd took first prize for black Grapes, whilst for white Mr. Grotorex was first.

The winner of the N.C.S. silver medal was Mr. Howe, gardener to T. J. Masters, Esq., for six Jap blooms, and the N.C.S. certificate went to Mr. Dumble, Sir C. Philips, Bart., for best bloom in Show, and Mr. J. Blake for best plant in the Show.

The judges awarded a special commendation to Messrs. W. Clibran and Son of Altrincham for an honorary exhibit of cut blooms and hardy fruit.

GLOUCESTER.—NOVEMBER 9TH AND 10TH.

THIS annual Exhibition was held at the Corn Exchange, and proved a decided success, all the exhibits showing good quality. Chrysanthemums were not so extensively staged as last year, but the quality was better. The large group put up by Mr. Sowray, gardener to Mrs. Gambier Parry, was the best we have seen anywhere, either in London or the provinces. The group was light, beautifully arranged as to colour, and the plants perfect with foliage down to the pots, each bloom standing out clear above the dark green leaves; it well deserved the first prize awarded.

Mr. Sowray was also first for twenty-four cut blooms, distinct, twelve incurved and twelve Japanese. This stand comprised—Japanese: Sunflower, Avalanche, Japonaise, Gloire du Rocher, Madame C. Audiguier, W. H. Lincoln, Stanstead White, E. Molyneux, Florence Percy, Vivian Morel, Mrs. H. Cannell, and Louis Boehmer. Incurved: J. Lambert, J. Salter, White Venus, Alfred Salter, Jeanne d'Arc, Camille Flammarion, Golden Empress, Lady Hardinge, Empress of India, Queen of England, M. R. Bahuant, and Violet Tomlin. W. Meath Baker, Esq., Hasfield Court, Gloucester (gardener, Mr. Aplin), was a very good second. In the twelve bloom class Mr. Sowray and Mr. Aplin took the prizes in the order named. In the Anemone class, C. Lee Campbell, Esq., Glewston Court, Ross (gardener, Mr. S. T. Wright), took premier position, Mr. Aplin being second.

Fruit was well shown all through. In the Grape classes Mr. Sowray, Mr. Wright, and Mr. J. H. Jones, Barrow Hill, Churchdown, took the principal prizes. For the best and most profitable sorts of Apples, limited to tenant farmers within the county of Gloucestershire, Mr. T. Morris, Maisemore Court, was first with a very good collection. For twenty-four dishes of Apples, distinct, prize given by Mr. J. Watkins, Mr. Wright was first, and Mr. Aplin second. For a collection of dessert Apples the English Fruit and Rose Co., Hereford, were first, showing

fruit in splendid condition. Mr. Wright was second with a large highly coloured collection. For twelve Ashmead's Kernel, Mr. Wright took first prize; the English Fruit and Rose Co. second. For Ribston Pippins Mr. Wright was first, and Mr. T. Morris second. With twelve Cox's Orange Pippin the English Fruit and Rose Co. were first, and Mr. Wright second. The same exhibitors were the most successful in the remaining single dish classes. For a collection of culinary Apples the English Fruit and Rose Co. were first, and Mr. Wright second. For collections open to tenant farmers only Messrs. Morris, Phelps, Tibberton, were the most successful. With dessert Pears Mr. Wright was an easy first in every class, Mr. Sowray coming next. Mr. J. Watkins, Pomona Farm, Hereford, staged a splendid collection of Apples, not for competition.

Vegetables were well staged by Mr. F. Williams, High Street, Thornbury, and Mr. Aplin. Potatoes were not so well shown as we have seen them at Gloucester, being in many cases rather coarse.

A special feature of this Show was a remarkably fine collection of Cyclamens put up by Messrs. Sutton & Sons, Reading. The plants were in 5-inch pots, which were almost hidden by the splendid marbled foliage, forming a fine groundwork for the large and brilliant blooms. It was generally acknowledged that such a fine display had never been seen before in Gloucester, and they justly merited the six certificates awarded.

The Society are to be commended for doing all in their power to encourage farmers in fruit culture, as they give liberal prizes to tenant farmers within the county, and the improved quality of the fruit staged by them indicates that their efforts are being crowned with success.

BOURNEMOUTH.—NOVEMBER 9TH AND 10TH.

WITH four valuable silver challenge cups and numerous substantial money prizes it is not surprising that there was a close competition in nearly all the eighty-five classes which comprised the schedule of this noted Exhibition. The entire absence of all second-rate and stale flowers throughout the Show was a marked improvement. In the group classes there were no less than sixteen groups staged, all being highly commendable for their freshness, quality, and arrangement.

For a group of Chrysanthemums, arranged in a space of 60 feet, Messrs. Watts & Sons, nurserymen, Bournemouth, were awarded the premier position for a meritorious collection, the flowers being massive and fresh, while the foliage was of the brightest green, feathered down to the pots, all the plants being of medium height. Mr. T. K. Ingram was placed second with very dwarf plants, carrying good flowers; and Mr. E. Blanchard, Poole, third. For groups of 50 feet Mr. J. Stretch, gardener to Miss Evans, was placed first; Mr. Shave, gardener to W. W. Moore, Esq., second; and Mr. F. J. Ellis, gardener to L. Forbes, Esq., third, all exhibiting admirable collections. In the single-handed gardeners' class, for 30 square feet, Mr. C. Frampton, Winton, secured first honours and the N.C.S. silver medal and certificate for a splendid arrangement, while Messrs. Newell and Barge was placed second and third respectively. Mr. Thurle, Holdenhurst, secured the amateurs' challenge cup for a collection. The other plant classes were well filled, and contained generally some very creditable specimens.

Cut blooms were excellent. In the class for thirty-six and eighteen Japanese and eighteen incurved, not more than two of any variety. Mr. J. W. Taylor, gardener to T. P. Elphinstone, Esq., Cranmoor Lodge, Christchurch, was first, and Mr. N. Molyneux, gardener to G. Garnier, Esq., Fareham, a close second. Mr. Molyneux's incurved were both neat, solid and fresh, while many of his Japanese were wanting in the same qualities. On the other hand Mr. Taylor's Japanese were both solid and fresh, and had the additional advantage of possessing more variety of colouring, but his incurved were not on the whole quite so neat and solid as Mr. Molyneux's. Mr. Taylor's stand consisted of—Japanese: Vivian Morel (2), Mrs. F. Jameson Etoile de Lyon (2), E. Molyneux, M. Pigny, Mrs. C. H. Wheeler, Madame Baco (2, fine), Sunflower (2, good), Japonais, Avalanche, Louis Boehmer (2), Boule d'Or, and Thunberg. Incurved: Golden Empress (2), Queen of England (2), Emily Dale, John Doughty, John Lambert, Violet Tomlin (2), Princess of Wales (2), Miss M. A. Haggas (2), Empress of India, Prince Alfred, Mrs. Heale, Lord Wolseley, and Mr. Brunlees. Messrs. E. Watts & Son were placed third. For twelve Japanese (distinct) Mr. Taylor was again placed first with Vivian Morel, Avalanche, Golden Dragon, M. Pigny, Mrs. F. Jameson, Baronne de Prailly, Etoile de Lyon, Carew Underwood, Meg Merrilies, Mons. Elliott, Japonais, and Madame Baco. Mr. Molyneux and Mr. Garner (gardener to Mrs. Braddy) shared the other prizes in the order of their names.

For twelve incurved distinct, Mr. Taylor staged Lord Alcester, Alfred Salter, John Lambert, Queen of England, Violet Tomlin, Golden Empress, Empress of India, Princess of Wales, Mrs. Heale, Mr. Brunlees, Miss M. A. Haggas, and Prince Alfred, which secured him the first prize. Mr. Molyneux was a very close second, his Mrs. S. Coleman, Princess of Wales, and Mrs. Heale were particularly neat and good. Mrs. Braddy was third. A magnificent and highly coloured bloom of Vivian Morel from Mr. Taylor gained the prize as being the premier Japanese bloom in the Show, and a like award was made to Mr. Molyneux for a splendid bloom of Lord Alcester.

Anemones were well shown by Mr. Skinner, gardener to Major Stuart-Wortley, and the best reflexed was shown by the same exhibitor; Messrs. Reeve and Hankinson took the other awards. Other successful competitors in the other cut bloom classes were Messrs. Mills, Ricardo, Stuart, Reeve, Petherick, Burrows, Squires, and Armfield.

Fruit and vegetables were grand, while buttonholes, sprays, bouquets, and table decorations all helped to swell the attractions of a magnificent display, which our space will not allow us to particularise. It was, taken collectively, a grand Show and well managed by Mr. Spong, the Secretary, ably supported by members of the Committee, especially by Messrs. Brown, Swaffield, and Way. Upwards of £132 were taken at the doors, some 2000 persons being admitted on the second day for 3d. each.

REIGATE AND DISTRICT.—NOVEMBER 11TH.

THE fourth Exhibition of the above was held on the above date in the Public Hall, Reigate, and was in every way a decided success.

For a group of Chrysanthemums not exceeding 50 feet, Mr. J. Brown, gardener to Mrs. Waterlow, was first with a magnificent arrangement, the quality of the flowers being very fine, and the foliage all that could be desired. This also received a certificate. Mr. H. Bailey, gardener to W. S. Barklay, Esq., was second for a very fine group; and Mr. J. Hoad, gardener to J. Simpson, Esq., third for a smaller arrangement. Mr. Peters, gardener to W. Finch, Esq., was placed first, and Mr. E. Tickner second for specimens, both showing good plants. Standards were not very largely staged. Mr. W. Hamilton, gardener to Mrs. Grice, was the most successful for four bush specimens; and Mr. J. Brown exhibited four fine plants of Avalanche, Hamlet, Mdle. Lacroix, and Val d'Andorre, the flowers being of excellent quality.

The class for thirty-six Japanese blooms, distinct, was a grand feature. The flowers were of the very finest quality. The first place was assigned to Mr. C. Ritchings, gardener to Dr. Frankland, F.R.S., for a very fine stand of the following:—Back row: Vivian Morel, E. Molyneux, W. H. Lincoln, F. Davis, Alberic Lunden, Boule d'Or, Stanstead White, C. G. Schwabe, W. Tricker, Coronet, Baronne de Prailly, and Madame Marie Hoste (very fine, and was the best bloom in the Show). Middle row: Avalanche, Vice-President Audiguier, A. H. Neve, Gloire de Rocher, R. Brocklebank, Lady Lawrence, Mons. Freeman, Soleil Levant, Elaine, Val d'Andorre, E. Beckett, and Madame J. Laing. Front row: Sunflower, Louis Leroy, M. C. Audiguier, S. Owen, M. Darquier, Thunberg, Madame Baco, Mons. Bernard, Etoile de Lyon, Mdle. Lacroix, Puritan, Mrs. Wheeler. Mr. C. J. Salter, gardener to T. B. Haywood, Esq., was an extremely close second, only a point or two dividing them. Exceptionally fine were W. H. Lincoln, E. Molyneux, Sunflower, and E. Beckett. For twenty-four Japanese, Mr. J. Ormiston, gardener to J. Colman, Esq., was first; Mr. A. Hayter, gardener to Lady Somerset, second; Mr. Bailey third; and Mr. J. Colton fourth, all showing grand blooms. For twelve distinct, Mr. E. Tickner was a good first with particularly fine even fresh flowers. Mr. W. Hamilton second; and Mr. W. S. Congrave, gardener to Mr. Crawford, third, with fine blooms also. Six Japanese, one variety, brought out a strong competition. Mr. Ritchings staged very fine blooms of Avalanche; Mr. J. Brown and Mr. Hayter, Sunflower, and were placed in the order of their names.

For twenty-four incurved, distinct, Mr. Ritchings was again first with blooms of first-rate quality. Back row: Empress of India, Golden Empress, Queen of England, Prince Alfred, Mr. R. King, Golden Queen, Mons. R. Bahuant, and Lord Alcester. Middle row: Violet Tomlin, Princess of Wales, Nil Desperandum, Jeanne d'Arc, Lord Wolseley, Alfred Salter, Miss M. A. Haggas, and John Doughty. Front row: Mrs. W. Shipman, Mr. Bunn, Mrs. Coleman, Mabel Ward, Princess Teck, Jardin des Plantes, Lady Hardinge, and Cherub. Mr. J. C. Salter was a good second.

For twelve distinct Mr. C. Blurton, gardener to H. C. Boussen, Esq., Mr. G. Ormiston, and Mr. J. Cotton were first, second, and third respectively with well developed blooms. For six of one kind Mr. Ritchings again proved invincible, being well ahead with Golden Empress. These must rank amongst the finest incurved flowers staged this season, being of great depth, highly coloured, and perfectly fresh. Mr. Ormiston was second with good blooms. The reflexed and Anemone made a fine display, Mr. Salter showing in fine form, and winning easily in both classes for twelve.

Primulas, Cyclamen, and table plants also made a good show. Messrs. J. Smith (gardener to W. R. Inglis, Esq.), Hayter, and Blurton, were among the most successful.

GRASSENDALE AND AIGBURTH.—NOVEMBER 12TH.

THE second annual Chrysanthemum and Fruit Show was held on the 12th in the Parish Room, Grassendale. The exhibits were equal in every respect to last year. In the cut bloom classes the entries were not so numerous as might have been expected. This year much interest was taken in the class for twenty-four blooms for the prize offered by the President, A. L. Jones, Esq., Oaklands, Aigburth—viz., a silver cup valued at 10 guineas, to be won two years in succession, or three times in all. Three staged, Mr. Donald Forbes, gardener to Alfred Holt, Esq., Crofton, Aigburth, being a somewhat easy winner with a stand comprising Japanese: Vivian Morel, Etoile de Lyon, Stanstead White, Boule d'Or, Mons. Bernard, Avalanche, Mdle. Marie Hoste, Edwin Molyneux, Sunflower, Lilian B. Bird, Florence Davis, and W. W. Coles. Incurved: John Lambert (fine), Golden Empress, Lord Alcester, Alfred Salter, Mrs. Robinson King (good), Queen of England, John Doughty, Violet Tomlin, Mrs. S. Coleman, Mrs. Heale, Mr. Bunn, and Jeanne d'Arc. The second prize went to Mr. P. Green, gardener to L. H. Macintyre, Esq., Riversdale Road, Aigburth; and the third, Mr. J. Agnew, gardener to Mrs. Watts, Grassendale Park. For six Japs and six incurved, distinct, Mr. Grant, gardener to W. S. Gladstone, Esq., Mersey Road, was first, and Mr. A. Lewis, gardener to T. Neal, Esq.,

Beechwood Road, Aigburth, second. The former was also first for six Japanese, distinct; whilst Mr. P. Green was successful for six incurved, and three Japanese and three incurved.

The groups not to exceed 40 feet were fairly well shown, Mr. A. Lewis and Mr. J. Harrison, gardener to Mrs. W. G. Bateson, Elmhurst, Aigburth, being first and second. The latter was first for three trained Chrysanthemums; Mr. J. Madeley, gardener to W. C. Atkinson, Esq., St. Anne's Road, Aigburth, being first for three and one staked Chrysanthemum. Fruit was well staged, the Grapes exhibited by Messrs. Bounds and Leadbeater being particularly fine. There were placed not for competition a fine *Oncidium tigrinum* from Mr. J. Bounds; a group of Palms from Liverpool Horticultural Company, Ltd.; Palms, Crotons, and a variety of ornamental plants from Messrs. Ker & Sons, all of which received the certificate of merit.—R. P. R.

HARTLEPOOL.—NOVEMBER 13TH AND 14TH.

THE fifth Show was held in the Armoury, and was in every sense a thorough success. Groups of Chrysanthemums were a capital feature of the Show. The first prize went to Mr. T. Smith, West Hartlepool; the second prize being secured by Mr. A. Taylor, Broomhall, West Hartlepool. Miscellaneous groups were composed of the usual class of decorative plants remarkable for health and vigour, the Crotons being highly coloured. Mr. J. Hall, The Willows, was first; Mr. G. Farrow second, Mr. J. Patterson third. Double and single Primulas were staged in fine condition; baskets of cut Chrysanthemums made a gay display.

The President of the Society, Alderman Pyman, offered a very handsome silver cup for twenty-four blooms, twelve incurved and twelve Japanese. This trophy was won by Mr. A. Taylor, Broomhall, with good flowers staged as follows:—Incurved: Lord Alcester, John Lambert, Alfred Salter, Queen of England, Jeanne d'Arc, John Doughty, Empress of India, Lord Wolseley, Prince Alfred, Queen of England, Emily Dale, and Venus. Japanese: E. W. Clark, Condor, Sunflower, Edwin Lonsdale, Puritan, Etoile de Lyon, E. Molyneux, Bouquet des Dames, and Louis Boehmer. In this stand was found the premier incurved bloom in Lord Alcester, and also the premier Japanese in E. W. Clark, showing less coarseness than usual. Mr. T. Smith, Grantully, West Hartlepool, was second, Mr. J. Hall third, and Mr. A. Taylor fourth with incurveds, but which had lost their freshness. Mr. A. Taylor was again first for twelve incurveds, and also for twelve Japanese.

Three competitors exhibited in the class for four bunches of Grapes, Mr. J. Hall securing first prize with good Gros Colman, Mr. A. Taylor coming second with the same variety, and Mr. A. Taylor third. Trays of vegetables were a good feature of the Show.

CUCKFIELD.—NOVEMBER 15TH.

THIS Show was opened on the above date in rather depressing weather, a drizzling rain prevailing the whole day. The exhibits were quite up to the average. Of three groups staged the lead was taken by Mr. Geo. Stringer, gardener to R. A. Burn, Esq., Horsgate, with a bright arrangement; Mr. J. Mitchell, gardener to Major Meterly (President of the Society) was second; and Mr. W. Fox, junr., an amateur, third with a very good first exhibit in this class. For a group of six plants with Ferns Mr. T. Burtenshaw, gardener to W. Payne, Esq., Hatchlands, was first; while Mr. J. Mitchell and Mr. Geo. Stringer were the most successful exhibitors of specimen plants.

The two open classes for Japanese and incurved blooms brought together some fine stands; the incurved varieties being noticeably better than at earlier shows this year. In this class Mr. S. Horscroft, gardener to T. Potter, Esq., Hapstead House, Ardingly, was successful with John Lambert, Violet Tomlin, Alfred Salter, Lord Alcester, Lord Wolseley, Mrs. S. Coleman, Prince Alfred, Miss M. A. Haggas, Golden J. Salter, John Salter, and Princess of Wales; Mr. J. Voss, gardener to W. Savill, Esq., The Ferneries, Lindfield, was second; and Mr. R. Inglis, third.

For twelve Japanese, Mr. Voss was placed first with splendid flowers of Etoile de Lyon, Boule d'Or, Condor, Vivian Morel, W. H. Lincoln, Geo. Daniels, W. W. Coles, Sunflower, Stanstead White, Puritan, Glorioso, and Florence Davis. Mr. S. Horscroft; Mr. J. W. Coles, gardener to Mrs. Nichols, Highley Manor, Balcombe; and Mr. T. Venn, gardener to W. Sturdy, Esq., Paxhill Park, Lindfield, followed in the order named. Mr. J. W. Coles took the lead in both incurved and Japanese local classes. Mr. J. Lingley, gardener to T. W. Best, Esq., was the only exhibitor of twelve reflexed blooms. Mr. Voss showed, not for competition, some very fine blooms of Etoile de Lyon. Mr. Coles also had some cut blooms, amongst which were some promising seedlings of this year.

Mr. Geo. Warren, gardener to — Dent, Esq., Balcombe Place, and R. Inglis were the only exhibitors of Grapes. Mr. Stringer was first for two dishes of dessert Pears; and Mr. P. Bennet taking the premier place for stewing Pears. Apples were well shown by Mr. Stringer; Mr. J. Sands, gardener to T. Bannister, Esq., Hayward's Heath; Mr. J. Umpleby, gardener to Mrs. Woodcock, Bolnore, and Mr. G. Jupp, gardener to F. Campbell, Esq., Brantridge, Balcombe. Vegetables were also good.

WATERFORD.—NOVEMBER 15TH.

THIS annual event took place at the large Assembly Rooms of the Town Hall, and the display of fruit, vegetables, plants, and Chrysanthemums was considerably above the average. Taking the last first as exciting most interest, the competition for a cup value £5, presented by

Captain Raymond De La Ber, Kilcronagh, near Waterford, brought out three strong competitors in the Earl of Bessborough, Piltown; Colonel Villiers Stuart, D.L., Dromana; and Mr. E. Robinson, Waterford. This was for twenty-four cut blooms, half Japanese and half incurved. We have never seen a competition so keen. However, by a few points Lord Bessborough got first; and Mr. Stuart second; Mr. Robinson being a good third. The first-prize stand contained Japanese: Etoile de Lyon, W. W. Coles, Ralph Brocklebank, Puritan, E. Molyneux, Duchess of Albany, Vivian Morel (finest bloom in the Show), Stanstead White, Maiden's Blush, Madame J. Laing, Avalanche (very fine), and Madame Baco. Incurved: Queen of England, Empress of India, Alfred Salter, Jeanne d'Arc, Princess of Wales, Golden Empress, Bronze Jardin des Plantes, Emily Dale, Empress Eugénie, Violet Tomlin, Jardin des Plantes, and Prince Alfred. As a rule in all classes incurved blooms were behind former years. Among Japanese remarkably good were Gloriosum, Mdle. Marie Hoste, and Ralph Brocklebank in Mr. De La Ber's Japanese class, which gained first prize for twelve. In Mr. Stuart's cup class we have seldom seen finer Golden Dragon, Puritan, Volunteer, and Pelican; while in the incurved Miss M. A. Haggas still maintains its reputation. Mr. C. E. Davey was a good second for twelve Japanese.

The groups deserve special commendation, being unusually good, and were shown by Mr. Davey, already named; Mr. Robinson, Newtown, and Mrs. McCanson, Ballina Hill, the prizes going in this order.

Remarkably fine trusses of three of single and double Zonal Pelargoniums were shown by Messrs. Davey and Robinson, already named, getting first prizes in that order.

The classes for dessert Apples and Pears were well filled, but Messrs. N. A. Belview and Mr. Snow got first and second in the former, and Mr. Power and Mr. R. T. Carew, Ballinamona Park, similarly in the latter. The last named gentleman had similar honours for baking Apples, and the former for home grown Oranges. The vegetable classes are always strong, and the competitors numerous, in Waterford. The Hon. Secretary got prizes for Carrots, Celery, Parsnips, Onions, and Leeks; Mr. N. A. Power for Cabbages, Lettuces, and Leeks; Mr. Carew for Cauliflower, Tomatoes, and Parsnips.

Mr. N. A. Power and Mr. R. T. Carew divided the honours in the field crops class, while the aforementioned gentleman and Mr. J. H. Jones, Mullinabro, got first and second for Messrs. Sutton's prize. The energetic Hon. Sec., C. Percival Bolton, Esq., Brook Lodge, was ably assisted by Mr. J. A. Power (Power & Son, nurserymen). The judges were Mr. A. Herne, Lismore Castle, and Mr. W. J. Murphy.

LIVERPOOL.—NOVEMBER 15TH AND 16TH.

"ONE of the greatest Shows ever seen in Liverpool" was the verdict of all those who paid a visit to the Exhibition held in St. George's Hall on the above dates, and the attendance, more especially on the first day, was sufficient to gladden the hearts of the Committee. The Show was visited by the Mayoress and the greater number of the leading ladies and gentlemen of the district.

CUT BLOOMS.—These are always the great centre of attraction, and they far exceeded any seen at previous autumn shows. There were 139 entries, as against 120 last year, and 2148 blooms were staged. In the large class for twenty-four Japanese and twenty-four incurved in not less than eighteen varieties each, Mr. Donald Forbes, gardener to Alfred Holt, Esq., Crofton, Aigburth, won first honours with magnificent stands of blooms. The back row Japanese were Etoile de Lyon (2), Ralph Brocklebank, Avalanche, Vivian Morel, George Atkinson, E. Molyneux, Florence Davis. Second row: Stanstead White (2), W. W. Coles, Lilian S. Bird (2), Sunflower, Mdle. Marie Hoste, Mrs. Irving Clarke. Front row: Vivian Morel, Puritan, Mr. George Herring, Florence Davis, Boule d'Or, Mons. Bernard, W. Tricker, and Sunflower. Incurved.—Back row: John Lambert (2), Lord Alcester (2), Queen of England (2), Empress of India, Golden Empress. Second row: John Doughty (2), Mrs. Robinson King, Alfred Salter, Golden Empress, Jeanne d'Arc, John Salter, Empress of India. Front row: Beauty, W. Beverley, Mr. Bunn, Princess of Wales, Mrs. S. Coleman, Mrs. Heale, Miss Haggas, and Miss Violet Tomlin. The second prize fell to Mr. G. Burden, gardener to Geo. Cockburn, Esq., Lingdale Lodge, Oxtun, whose best Japs were Vivian Morel, Mrs. E. W. Clarke, Lilian S. Bird, Etoile de Lyon, Mons. Bernard, and W. H. Lincoln. Incurved: John Lambert, John Salter, Lord Alcester, and Jardin des Plantes. The third was awarded to Mr. J. Jellicoe, gardener to F. H. Gossage, Esq., Camp Hill, Woolton, who was a capital third, his incurved blooms being very fine. Fourth, Mr. T. Carling, gardener to Mrs. Cope, Dove Park, Woolton.

The handsome challenge cup, with 10 guineas as first prize, which was presented by Messrs. Ker & Sons, Aigburth Nursery, to be won two years in succession, was, owing to the death of Mr. A. R. Cox, who won it last year, again offered for competition for thirty-six blooms—viz., twelve Japanese, twelve incurved, and twelve reflexed. It was won by Mr. Jellicoe with a beautiful stand of blooms as follows—Japanese: Stanstead White, Etoile de Lyon, Mrs. F. Jameson (very fine), Florence Davis (grand), Gloire du Rocher, Avalanche, Boule d'Or, G. C. Schwabe, a fine variety after the style of E. Molyneux, lighter in colour; Vivian Morel, Sunflower, Mons. Bernard, and a splendid Mdle. Marie Hoste. Incurved: Emily Dale, Empress of India, Lord Alcester, Queen of England, Alfred Salter, Golden Empress, M. R. Bahuant, John Salter, Mrs. Coleman, Beauty, Mrs. Heale, and Violet Tomlin. Reflexed: Chas. Delmar (2), Cullingfordi (2), Chevalier Damage (2), Dr. Sharpe (2), King of Crimson (2), and Golden Christine (2). Second honours fell to Mr. D. Heaney, gardener to H. G. Schintz, Esq., Mossley House, Mossley Hill, who had also an admirable stand, prominent being Vivian Morel,

Mrs. Irving Clarke, Etoile de Lyon, E. W. Clarke, Empress of India, Madame Darrier, Violet Tomlin, E. Dale, Golden Christine, and Dr. Sharpe. Third, Mr. Jno. Edwards, gardener to Henry Tate, jun., Esq., Allerton Beeches, whose Japanese and reflexed were very good. Fourth, Mr. Geo. Haigh, gardener to W. H. Tate, Esq., Highfield, Woolton.

For eighteen incurved Mr. T. Healey, gardener to Colonel Wilson, Hillside, Allerton, staged a fine collection for first honours, the best being Golden Empress, M. R. Bahuant, Lord Alcester, Mrs. Coleman, Violet Tomlin, and Princess of Wales. Second, Mr. Donald Forbes; third, Mr. Jellicoe. For the same number of Japanese the latter exhibitor was placed first, having Mrs. F. Jameson, Mrs. Irving Clarke, and G. C. Schwabe. Second, Mr. Thos. Foster, gardener to J. Brancker, Esq., Green Bank, Wavertree; third, Mr. Donald Forbes. There were two classes for twelve incurved, one being taken by Mr. Donald Forbes, and the other by Mr. H. Howard, gardener to A. S. Mather, Esq., Woolton; the seconds being Mr. T. Elsworthy, gardener to A. R. Gladstone, Esq., Court Hey, Broad Green, and Mr. P. Green, gardener to L. A. Macintyre, Esq., Riversdale Road, Aigburth. For the corresponding classes in Japanese Mr. J. Williams, gardener to C. J. Procter, Esq., Boscobel, Birkenhead, and Mr. J. Broomes, gardener to Thos. Harrison, Esq., Belle Vale Hall, Gateacre, were accorded first honours, the former having perhaps the best twelve Japanese in the Show. For six incurved Mr. T. Wilson, gardener to O. H. Williams, Esq., 2, Fulwood Park, Aigburth, was first, whilst the same position was taken by Mr. Jno. Breen, gardener to John Mosford, Esq., Righi, Tattenhall, Cheshire, for six Japanese. The prizes for Anemones, reflexed, Pompons, the maiden class, and six blooms of any kinds went to Messrs. Broome, T. Foster, W. Livess, Broome, Darlington, and C. E. Turnock.

PLANTS.—In the groups and trained plants there was keen competition, especially in the class for three trained specimens. The first prize was won by Mr. J. Harrison, gardener to Mrs. W. G. Bateson, Elmhurst, Aigburth, who showed Mrs. George Rundle, John Salter, and Chevalier Damage. Second, Mr. W. Wilson, gardener to H. Cunningham, Esq., Gorse Cop, Gateacre. Third, Mr. John Rose, gardener to J. G. Kitchen, Esq., Fernwood, Huyton. For three Pompons, Mr. Harrison was first. Mr. Harrison was also first for one Pompon. For one large-flowered Mr. E. Wharton, gardener to J. Findlay, Esq., Mavis Court, Sefton Park, was first, whilst the prizes for one standard, one pyramid, and one untrained went to Mr. T. Gower, gardener to J. A. Bartlett, Esq., Lynton, Mossley Hill. Mr. E. Bennett, gardener to J. E. Gordon, Esq., Dadlow House, Wavertree, was first with six untrained. The groups were the best ever seen here. For one 60 feet Mr. T. Winkworth, gardener to R. Brocklebank, Esq., Childwall Hall, was an easy first, his group being admirably balanced in every way, and very fresh. Mr. T. Moorhouse, gardener to R. Brocklehurst, Esq., Sandfield Park, was a good second; and Mr. J. Lowndes, gardener to S. S. Parker, Aigburth third. Stove and greenhouse plants were admirably staged by Messrs. Jellicoe, Healey, Moorhouse, and Bracegirdle; Orchids by Messrs. Bounds, Osborne, Bracegirdle, and Foster; and bouquets by Messrs. R. Pinnington, Gower, Jellicoe, Lewis, and Bowring.

Messrs. Bennett, Elsworthy, Barker, Wilson, Livess, Carleton, Grey, Middleton, Broome, Pinnington, Hannagan, Kelly, Winkworth, Mackarell, and Rev. L. Garnett distinguished themselves in the fruit classes; and an extra prize was awarded to Mr. R. Pinnington for a basket of Tomatoes.

Certificates of merit were awarded to Messrs. T. Davies & Co., Wavertree, for a collection of plants; Messrs. R. P. Ker & Sons for Cyclamen—one of the features of the Exhibition; to the Liverpool Horticultural Co. for Orchids and other plants; to Mr. H. Middlehurst, Manchester Street, for Mignonette, very dwarf; to Messrs. Dicksons, Limited, Chester, for an extensive and fine collection of Apples; and to Messrs. J. Williams & Co. for fertilisers. A first-class certificate was awarded to Mr. G. Burden, gardener to George Cockburn, Esq., Lingdale Lodge, Oxtun, for Chrysanthemum *George Cockburn*, a bronze sport from Princess Beatrice. Messrs. Clibran & Sons, Altrincham, exhibited, "not for competition," an extensive display of Chrysanthemums, which included some newer varieties.

[We have been reluctantly compelled to materially abridge the report of this and other evidently fine shows.]

PLYMOUTH.—NOVEMBER 15TH AND 16TH.

THE annual Exhibition of the West of England Chrysanthemum Society was held in St. Andrew's Hall, Plymouth, on the above dates. The cut blooms were the principal feature of the Show.

In the open class for forty-eight blooms, twenty-four incurved and twenty-four Japanese, not less than eighteen varieties of each, there were ten entries. Messrs. W. & G. Drover, Fareham, won easily, the blooms being fresh and bright. The best Japanese were Mrs. C. Wheeler, Vivian Morel, Mrs. E. W. Clarke, J. S. Dibben, Sunflower, W. H. Lincoln, Boule d'Or, and E. Molyneux. Their incurved blooms were in their usual form, the best being Lord Alcester, Golden Empress, John Lambert, Lady Dorothy, Violet Tomlin, Princess of Wales, Alfred Salter, Empress of India (good), and Mrs. S. Coleman. Miss Frupp, The Grove, Teignmouth (gardener, Mr. J. Stiles), was second, who showed well Avalanche, Etoile de Lyon, Mrs. E. W. Clarke, Sunflower being excellent in Japanese section; and the best incurved were Violet Tomlin, Princess of Wales, Jeanne d'Arc, M. A. Haggis, and Empress of India. W. H. Fowler, Esq., Claremont, Taunton (gardener, Mr. G. Hawkins), was third.

For twelve incurved blooms, Messrs. W. & G. Drover were first; Mr.

W. M. Baker, Gloucester, second. In the class for three blooms of Vivand Morel, and three of Florence Davis, Messrs. W. & G. Drover were first, and W. H. Fowler, Esq., second. For three blooms of J. S. Dibben, Messrs. W. & G. Drover were first.

Miscellaneous groups were excellent, W. H. Trickett, Esq., was first with a beautifully arranged exhibit. Chrysanthemum groups were not up to the usual standard.

Fruit and vegetables were very good, but both days the Show was crowded to excess, the hall not being large enough.

BANBURY.—NOVEMBER 16TH.

THE seventh annual Show was acknowledged to be by far the best ever held in Banbury. Not only was the quality of the cut blooms remarkably good throughout, but the competition was also very strong. Unfortunately, the names of the places from which the various exhibits were sent did not appear on the prize cards, so they cannot be given here.

In the principal class for cut blooms, twelve Japanese and a similar number of incurved, all to be distinct, were required. The premier position was well won by Mr. McIntyre, gardener to Viscount Valentia, his stand of incurved containing several grand solid blooms of fine depth. The varieties were—Incurved: Golden Empress, Queen of England, Robert Cannell, Empress of India, Mrs. Shipman, Lord Alcester, Miss M. A. Haggas, Emily Dale, Lady Talford, Mrs. N. Davis, Princess of Wales, and Violet Tomlin. Japanese: W. G. Drover, W. W. Coles, Mdlle. Marie Hoste, Mrs. Falconer Jameson, Stanstead White, E. W. Clarke, Avalanche, Ralph Brocklebank, W. H. Neve, Comte de Germiny, George Daniels, and Etoile de Lyon. Mr. Hawkes, gardener to Hon. Mrs. Douglas-Tennant, was a good second, having fine Japanese and fairly good incurved. The third prize went to Mr. Masterson, gardener to the Countess of Camperdown, who had grand Japanese, but was rather weak in incurved.

For eighteen incurved, Mr. Wingrove came in first with undressed blooms of fair quality, Princess of Wales, Queen of England, Lady Hardinge, and Miss M. A. Haggas being the best among them. Second, Mr. Price, gardener to Mrs. Bulley. Third, Mr. W. J. Johnson. For twelve incurved, Mr. Hawkes was first with even solid blooms; Violet Tomlin, Princess of Wales, Lord Wolseley, and Miss M. A. Haggas were particularly good; Mr. H. Dunkin, gardener to the Earl of Warwick, followed closely with an even well-finished stand; Mr. Masterston was third. For six incurved of one variety, Mr. R. Jones, gardener to — Smith-Ryland, Esq., was first with good blooms of Queen of England.

For eighteen Japanese Mr. Wingrove was again a good first with very bright and fresh blooms of good size. His best varieties were Vivand Morel, Stanstead White, Etoile de Lyon, George Atkinson, W. W. Coles, Puritan, Sarah Owen, Sunflower, Mons. Bernard, W. H. Lincoln, and The Daimio. The class for twelve Japanese, distinct, brought out the strongest competition in the Show, eight good stands being staged. The first prize was awarded to Mr. Hawkes, who was somewhat lucky in this instance, as his flowers though large lacked freshness and good colour. The varieties were Stanstead White, Vivand Morel, W. H. Lincoln, Irving Clarke, Mons. Bernard, Boule d'Or, Fimbriatum, Danaë, Mrs. A. Hardy, Val d'Andorre, Avalanche, and Mars. Mr. H. Dunkin, who was placed second, staged a bright fresh stand of large blooms. Etoile de Lyon, Mrs. F. Jameson, and Stanstead White were particularly good. Mr. Masterson was a close third, his blooms also being fresh and bright in colour as well as large. Mrs. Wingrove secured the premier position in the class for twelve blooms, shown as grown. The varieties were similar to those he exhibited in other classes, Vivand Morel being especially good. The same exhibitor was first for twelve reflexed, and also for Pompons, Mr. McIntyre securing a similar position for large flowered Anemones, and for Pompon Anemones.

Mr. Baskett, as usual, was a good first with an excellent group put up in capital style, the flowers being remarkable for their vivid colour and freshness. Mr. Cummings, gardener to Mrs. J. Gillett, was second, and Mr. W. J. Johnson, third. Specimen plants were but poorly shown, Messrs. Wingrove and Bullen being the principal prizetakers.

Apples, Grapes, Potatoes, and Onions were remarkably well shown, the principal prizetakers being Messrs. Doherty (gardener to Lord North), King, Masterson, and Wingrove. Mr. Pope, gardener to the Earl of Carnarvon, secured an easy victory for a collection, and to him was also deservedly awarded a silver medal for the exhibit representing the highest cultural skill.

Mr. Owen of Maidenhead exhibited a large number of new varieties of Chrysanthemums, and was awarded certificates of merit for G. C. Schwabe and Viscountess Hambledon.

YEOVIL.—NOVEMBER 16TH.

THIS Show was held in the Town Hall on the above date, and was a success. Groups of Chrysanthemums and miscellaneous plants arranged for effect are always a strong feature in the Yeovil shows. The first prize in the principal class for a group of Chrysanthemums was won by Mr. A. Crossman, gardener to Jas. Brutton, Esq., Yeovil. Mr. C. Anthony, gardener to Thomas Moore, Esq., Yeovil, was a good second, and Mr. Gear, gardener to B. Penny, Esq., Yeovil, a creditable third. Three groups of miscellaneous plants were arranged. The contest between Mr. Biss, gardener to Jabez Bradford, Esq., Yeovil, and Mr. Appleby, gardener to T. W. Dampier-Bide, Esq., was very keen, and the prizes were awarded in the order in which their names appear. Mr. J.

Allen, gardener to Rev. W. L. Cotter, West Coker, was third. Plants, trained and otherwise, made a fair display. Mr. Crossman was the most successful exhibitor, gaining first prize for three incurved, first for three reflexed, first for three Japanese, first for three Pompons, first for a specimen incurved, and first for a specimen Japanese. Mr. Anthony secured three second prizes, Mr. Appleby one second, and Mr. Sampson, Bridport, one second in the above-mentioned classes with good exhibits.

Cut blooms were shown extensively and in excellent condition. The principal class was for thirty-six blooms of Japanese, not less than twenty-four varieties. There were seven excellent stands staged in competition. Mr. W. Iggulden, gardener to the Earl of Cork, Marston House, Frome, secured the premier position with a grand stand, winning by eleven points. His blooms were very large, solid, fresh, and of fine depth. Among the varieties represented in this fine stand may be mentioned Edwin Molyneux, Etoile de Lyon, E. W. Clarke, Ralph Brocklebank, Boule d'Or, Avalanche, Vivand Morel, Sunflower, Stanstead White, W. W. Coles, Baronne de Prailly, Mdlle. Lacroix, and Carew Underwood. Mr. Crossman was a good second. A flower of Vivand Morel in this stand, 8 inches in diameter, and 7 inches in depth, was accorded the N.C.S.'s "certificate of merit" which was given for the best bloom in the Show. Mr. Copp, gardener to W. E. S. Earle Drax, Esq., Holnest, Sherbourne, was a capital third; and Mr. W. Gallop, gardener to H. W. Middleton, Esq., Badford, Porchester, was a very close fourth, all staging excellent blooms. In the class for eighteen incurved, in not less than twelve varieties, Mr. Copp was well to the front, staging, among others, fine blooms of Empress of India, Lord Alcester, Miss Haggas, Jeanne d'Arc, Golden Empress, Lord Wolseley, Alfred Salter, and Queen of England. Mr. T. Sampson was second; and Mr. J. Lloyd, gardener to V. Stuckey, Esq., Langport, third. Mr. T. Wilkins, gardener to Lady Theodore Guest, Inwood, Stalbridge, had the best half dozen blooms of incurved varieties, including an unusually fine specimen of Empress of India. Mr. W. Connelly, gardener to J. R. C. Talbot, Esq., Rhode Hill, Lyme Regis, was a good second, staging smaller and more even blooms. Mr. Iggulden led the way with twelve Japanese, distinct, staging grand blooms of the leading varieties. Mr. Lloyd was a very close second, and Mr. Connelly third. The last named exhibitor and Mr. Lloyd were first and second respectively for six Japanese, distinct, staging fine blooms. Table plants and vases of flowers were well shown.

Three certificates of merit given by the National Chrysanthemum Society for the best group of Chrysanthemums, best cut bloom and best specimen plant (Mdlle. Lacroix), were awarded to Mr. Crossman, whose exhibits have greatly tended to make the name of Yeovil well known in the horticultural world. Mr. Banfield of the Sherborne Road, Yeovil, contributed an effectively arranged stand of miscellaneous plants; Messrs. Jarman & Co., Chard, a collection of sixty dishes of Apples; Messrs. Scott, Merriott, a similar number of equally fine Apples; Mr. Stephen Castle, Fordingbridge, Grapes; and Messrs. Robert Veitch and Son, Exeter, staged fifty dishes of Apples in splendid condition. Fruit and vegetables were excellent in the competitive classes.

BRISTOL.—NOVEMBER 16TH and 17TH.

THIS was in every respect a remarkably fine Show. The entries were very numerous, falling only a little short of 500, while the quality generally was decidedly good. The best six specimen plants of large flowered varieties were shown by Mr. J. Ayres, gardener to Mrs. Gibson, Clifton; Mr. J. West being a good second; and Mr. J. Leech, Leigh Woods, third. Mr. Ayres was well first for three specimens of Japanese varieties; Mr. Leech was second, and Mr. West third. Similar positions were occupied by these exhibitors in the class for three incurved varieties, all showing creditably. Mr. T. M. Miller was first for one incurved, and also for one Japanese variety. The best group of Chrysanthemums was shown by Mr. J. Dole, Redlands, Bristol; the second prize being well won by Mr. F. Leigh, Westbury-on-Trym; and the third prize by Mr. J. C. Wall. The principal exhibitors of miscellaneous groups were Mr. W. Bannister, Cote House, Westbury-on-Trym, Mr. J. Crispin, Bristol, and Mr. J. Saunders. There were also classes provided for a variety of other plants, in all of which the competition was good.

The principal class in the cut bloom section was for twenty-four incurved in not less than eighteen varieties. Messrs. W. & G. Drover appeared to have won easily, but not having the stipulated number of varieties were disqualified, letting in Mr. J. Dumble, gardener to Sir Charles Phillips, Haverfordwest, who was placed first; Mr. Runnacles, Sherborne, being second, and the Rev. F. C. Drake, Taunton, third. Mr. Dumble had moderately large good blooms of Golden Empress of India (2), Mons. Bahuant, Emily Dale (2), Alfred Salter, Empress of India (2), John Doughty, Mrs. Robinson King, Prince Alfred (2), Lord Alcester (2), Queen of England, Princess of Teck (2), John Salter, Mrs. Norman Davis, Hero of Stoke Newington, Lady Dorothy, Jeanne d'Arc, and Empress Eugénie. The best eighteen incurved varieties were shown by Mr. Carpenter, Clifton, who had Empress of India, Mons. Bahuant, Lord Alcester, Golden Empress of India, Queen of England, Lord Wolseley, Alfred Salter, Miss Haggas, Princess of Wales, Mrs. Heale, Mrs. S. Coleman, Emily Dale, Barbara, Jeanne d'Arc, Cherub, Lady Hardinge, John Salter, and Princess of Teck, all good. Mr. John Baylis, Winterbourne was second, and Mr. Pethick, third. For twelve incurved Mr. Runnacles was first, Mr. Baylis second, and Mr. Butt, Cheltenham, third.

The Japanese classes were better filled than those for incurved. The first prize for twenty-four varieties went to the Messrs. Drover, who

had fine blooms of Viviani Morel, Puritan, W. H. Lincoln, Violet Rose, Condor, Mrs. Wheeler, Mdle. Hoste, Etoile de Lyon, Lilian Bird, E. W. Clarke, Baron Prailley, Florence Davis, E. Molyneux, Sunflower, Boule d'Or, J. S. Dibbans, M. E. A. Carrière, Sarah Owen, Carew Underwood, Madame J. Laing, Mr. G. Herring, Mont Blanc, and Mons. Bernard. Mr. Dumble was a good second, and Mr. Runnacles third.

In the class for eighteen Japanese varieties Mr. W. Robinson, gardener to Lord Justice Lopes, was first. Mr. Carpenter was second, and Mr. Pethick was third, both having many good blooms. Messrs. Drover were first for twelve Japanese varieties. Mr. Holbrook was second, and the Rev. F. C. Drake third. For twelve blooms of hairy varieties Messrs. Drover were first, Mr. Robinson second, and Mr. W. Wells, Redhill, third; the prize for six blooms of Mrs. Alpheus Hardy also going to Messrs. Drover. They likewise took the silver medal offered for the best Chrysanthemum bloom in the Show, the award being made to a very fine bloom of incurved John Lambert. Fruit and vegetables were particularly good, Messrs. W. Nash, J. Gibson, E. T. Hill, W. Iggulden, and T. Jones being among the prizewinners.

HULL.—NOVEMBER 16TH AND 17TH.

THE annual Exhibition was held as usual in the Artillery Barracks, and was a decided success in every respect. This Society enjoys as high a reputation for its admirable management as it does for the quality of its exhibits. On this occasion there was no change apparent, and everything worked smoothly under the able guidance of Mr. Falconer Jameson as Chairman of the Committee, and Messrs. Harland and Dixon, the Hon. Secretaries.

In the cut bloom classes the entries far out-numbered any previous year, the handsome prizes offered tempting exhibitors from a distance, while the quality of the blooms throughout was of a high standard. The principal class was for twenty-four incurved, not less than eighteen varieties, not more than two blooms of one variety. The first prize being £10 and a silver cup value £5 5s., no less than twelve competed which produced a grand display. Mr. A. Coombes, gardener to the Right Hon. the Earl of Dudley, Himley Hall, Dudley, won rather easily. The varieties were Alfred Salter (2), Golden Empress (2), Queen of England, John Doughty, Golden Queen of England (2), Jeanne d'Arc, Violet Tomlin (2), Miss Haggas (2), Lord Alcester, Hero of Stoke Newington, Princess Teck (2), Jardin des Plantes, Mrs. Coleman, Princess of Wales, Lord Eversley, Mrs. Norman Davis, Mrs. Heale, and Lady Dorothy. Mr. H. Shoesmith, gardener to M. Hodgson, Esq., Shirley Cottage, Croydon, was an excellent second, the blooms smaller, but wonderfully fresh and well staged. Mr. J. Myers, gardener to the Right Hon. Earl of Sandwich, Hinchbrook, Huntingdon, was third, with uneven blooms. Mr. Coombes was again successful in the class for twelve incurved, staging blooms very similar to those in the larger class; and Mr. G. Musk, gardener to Lord de Ramsay, Haverland Hall, Norwich, third. Eight competed.

Japanese made a grand display. No less than ten competed in the principal class, the best coming from Mr. J. Myers, not remarkable for their size, but were deep, bright, and fresh. The varieties were: Stanstead White, Viviani Morel, M. E. A. Carrière, Violet Rose, Mrs. F. Thompson, Etoile de Lyon, George Daniels, Coronet, Madame Bacco, Florence Davis, Mrs. E. W. Clarke, Waban, Lizzie Cartledge, Wm. Lane, Madame C. Audiguer, W. H. Lincoln, Gloire de Rocher, Umpire, Meg Merrilies, M. Bernard, Boule d'Or, Vice-President Audiguer, A. H. Neve, and Triomphe du Châlet. Mr. Musk was a close second with larger blooms, but not so fresh. Mr. Heany, gardener to H. G. Schintz, Esq., Mossley Hill, Liverpool, third, with wider but not so good quality flowers. Mr. Heany won premier award for twelve and also the N.C.S. certificate of merit for a capital stand of blooms, which quite covered the board. Mr. Musk was a good second, and Mr. W. H. Hotham, gardener to W. Robinson King, Esq., North Ferriby, third. Mr. Heany was the most successful amongst nine competitors for twelve white varieties. Mr. Shoesmith was second, and Mr. Hotham third.

In the class devoted to the Anemone section, Japanese or otherwise, Mr. W. B. Davidson, gardener to R. F. Jameson, Esq., East Ella, Hull, secured first honour for twelve, in not less than nine varieties. Mr. G. B. Burrows, gardener to Sir H. Bennett, Westlands, Grimsby, was second, and Mr. G. Wilson, gardener to J. Reckitt, Esq., Swanland Manor, Brough, third. Mr. Myers was the most successful in the class for twelve reflexed, in not less than six sorts, showing well-developed blooms of the best varieties. Mr. W. Welton, gardener to G. A. Carr, Esq., was second, and Mr. B. Davidson third. Six competed. Mr. G. Smith secured leading honours for both Pompon and single varieties. Scented Geraniums were staged by two competitors, Mr. Drury winning, Mr. G. Smith second, neither exhibit possessing much merit.

Prizes were offered for premier blooms in both the incurved and Japanese sections. Mr. Coombes won with Golden Queen of England in the former class and Mr. Musk with Viviani Morel in the latter in the open sections. In the amateurs' division the premier incurved was Mr. Bunn, shown by Mr. J. Melbourne, Albert Avenue, Anlaby Road, Hull, Mr. Bearpark winning a similar honour with Viviani Morel. The silver medal for excellence of culture was awarded to Mr. A. Coombes for his stand of twenty-four incurved, and the certificate of merit of the N.C.S. was given to Mr. Heaney for his first prize stand of twelve Japanese blooms.

First-class certificates were awarded to Mr. Molyneux, gardener to W. H. Myers, Esq., M.P., Swanmore Park, Bishop's Waltham, Hants, for Mrs. Mitchell, a buff sport with a purple shade from the incurved variety Empress Eugénie; to Messrs. Cannell & Sons for Lord Brooke; to

Messrs. Pitcher & Manda for The Tribune, a yellow Japanese of much promise, and for Lord Brooke; and to Mr. Newbould, gardener to — Jacobs, Esq., Cragg Road, Rawdon, Leeds, for Mrs. A. Jacobs, a bronze sport from Madame Baco.

Groups of Chrysanthemums interspersed with foliage plants arranged for effect in a space of 100 square feet were a distinct feature. Mr. G. Wilson, gardener to J. Reckitt, Esq., Swanland Manor, Brough, won the silver challenge cup for the third time, and it now becomes his property. This group was effectively arranged, and was a long way ahead of the other four competitors. Mr. G. Coates, gardener to W. Wheatley, Esq., Anlaby Road, Hull, was second; and Mr. Gledhill Cottam, jun., Alma Gardens, Cottingham, third with a pleasing arrangement. Specimen plants receive much encouragement here. For six bush grown, but not formally trained, Mr. W. Goodhill, 32, Stanley Street, Hull, was first; Mr. H. H. Taylor, Newland, Hull, second; Mr. T. Smith, Norwood Nursery, Beverley, third. For three trained specimens Mr. J. Hemming, gardener to E. Leatham, Esq., Beechholme, Newland, Hull, was first; and Mr. R. Thirsk, Grove Hill Road, Beverley, second. Mr. Hemming was first for three standards and for three pyramids, in both classes depending upon the "Rundle" family, which were well represented. For six plants, "cut-back," no less than five competed, making a good display. Mr. Coates won with plants averaging 3 feet high and carrying good blooms. Mr. G. Wilson was second. Table decorations were splendid.

RUGBY.—NOVEMBER 16TH AND 17TH.

THE sixth annual Exhibition was held in the Town Hall on the above dates, and proved to be a great advance on last year's Show, both in the number and quality of the exhibits. In the class for thirty-six cut blooms, eighteen Japanese and eighteen incurved, the competition was very keen. The first prize was awarded to Mr. Coombes, gardener to the Earl of Dudley, Himley Hall, whose flowers were fresh and good. He staged Japanese: Etoile de Lyon, Stanstead White, Alberic Lunden, Japonais, Crystal Queen (very like a pale form of Etoile de Lyon) Mons. Bernard, Puritan, Mrs. F. Jameson, Pelican, Lilian S. Bird, R. Brocklebank, Avalanche, W. W. Coles, W. H. Lincoln, Jeanne Délaux, Mdle. M. Hoste, Madame Baco, and Vice-President Audiguer. Incurved: J. Lambert, A. Salter, Golden Empress, J. Doughty, Queen, Lord Alcester, Jeanne d'Arc, Mrs. Coleman, Empress of India, Miss Haggas, Violet Tomlin, Princess Teck, Mrs. N. Davis, Hero of Stoke, Jardin des Plantes, Princess of Wales, Lord Eversley, and Lady Dorothy. Mr. W. Harman, gardener to the Earl of Denbigh, Newnham Paddox, was second; and Mr. Finch, gardener to Mr. Marriott, of Coventry, third. The other exhibits in this class were so close to the above that they were highly commended by the judges. These were shown by Mr. W. H. Divers and Mr. S. Underwood.

In the open class for twelve Japanese Mr. Harman was first with rather small flowers, and for twelve incurved Mr. Dunkley, gardener to S. Lymington, Esq., of Market Harboro, was a good first. The groups contained some very good flowers, Lilian S. Bird being especially noticeable in the first prize exhibit shown by Mr. H. Blakeway, gardener to P. A. Muntz, Esq., M.P., who also staged a fine bank of Palms and Ferns at one end of the hall.

The local classes for Apples, Primulas, vegetables, and Chrysanthemums (both plants and cut flowers) were well filled and contained some very good specimens. A stall of fruit and flowers was kindly arranged and attended to by Miss Cumming and other ladies, the contents being sold in aid of the Gardeners' Orphan Fund. The whole of the arrangements were exceedingly well carried out by the Committee, the Secretary, Mr. W. Bryant, deserving especial mention for his care and attention.

TAMWORTH.—NOVEMBER 16TH AND 17TH.

THE third annual Exhibition was held in the Assembly Rooms, and was opened by Major Darwin, M.P. (Lichfield Div. of Staffs), who was accompanied by Mrs. Darwin. The Exhibition was a great success, and showed that the interest taken in the cultivation of the "Autumn Queen" in and around Tamworth is rapidly increasing.

There were 220 entries, but the main feature of the Show was that of the various groups and cut blooms in the open class. Of the Chrysanthemum groups that exhibited by the Rev. W. MacGregor, Bole Hall (Mr. Higginson, gardener), was awarded the first prize, and it was acknowledged by competent judges to be exceedingly good, the majority of the blooms being very large. The second prize was awarded to Sir Robert Peel, Drayton Manor (Mr. J. Mack, gardener), for a beautifully arranged group, in which Japanese and incurved blooms were judiciously intermingled. The third and fourth prizes were carried off by W. F. Inge, Esq., Thorpe Hall (Mr. Hurst, gardener), and Mr. T. B. Allkins, Tamworth (Mr. Paxton, gardener), respectively, for very creditable collections. Mr. R. Allum, Bonehill Nurseries (Mr. Tauser, gardener) carried off the palm with an exceptionally pretty and well arranged group of miscellaneous plants, Sydney Fisher, Esq., Camberford Hall (Mr. Salt, gardener), being awarded second honours.

The cut blooms shown by the Earl of Harrington (Mr. Goodacre, gardener), who carried off the first prize last year, were very fine, an Empress of India being especially good; but the premier position this year fell to Sir Robert Peel, who put on the board exceptionally fine blooms. His incurved were very massive, and particularly well finished were those of the "Queen" family. The Japanese were also very good, being large, full, and of good colour. The Earl of Harrington took second prize. The winning board was made up of—Japanese: Etoile de Lyon, Val d'Andorre, Avalanche, Sarah Owen (2), Ralph Brocklebank,

E. Molyneux, Vivian Morel, D. B. Crane, Condor, M. A. H. Neve, Madame Baco, Criterion, W. Tricker, W. H. Lincoln, Eynsford White, Florence Davis, and Lizzie Cartledge. Incurved: J. Lambert (2), Empress of India (2), Mrs. S. Coleman, Lord Alcester (2), Prince Alfred, Lord Wolsley, Queen of England (2), J. Doughty, Golden Empress, Madame Darrier, Madame Gayval, Pink Venus, Mons. R. Bahuant, and Camille Flammarion.

In the class open to gentlemen's gardeners residing within six miles of Tamworth Mr. Mack again showed very good blooms, carrying off first prize for nine Japanese, nine incurved, and twelve various. Mr. Dix, gardener to General Dyott, was second; and Mr. Winchester, gardener to Rev. Hayter Hints, third. Amateurs and cottagers also showed well, and vegetables were admirably staged by gentlemen's gardeners, market gardeners, and cottagers. Messrs. Dwyer and Palmer (Birmingham), and Mr. Cock (horticultural lecturer to the Staffs County Council) kindly superintended the staging of the numerous exhibits.

YORK.—NOVEMBER 16TH, 17TH, AND 18TH.

THE thirteenth Show, under the management of the Ancient Society of Florists, was held on the above dates in the Fine Art Building. Groups of miscellaneous plants and of Chrysanthemums have always been a striking feature at this Show, and on this occasion they were equally good. In the group (80 square feet), arranged for effect, Mrs. Gutch, Holgate, secured the first prize with an extra fine collection of plants carrying magnificent blooms. Many of both the incurved and Japanese would have done good service on the exhibition board. Mr. S. Hardcastle was second and Miss Stewart third. There were five entries in this class. In another class there were again five magnificent groups of Chrysanthemums interspersed with foliage plants (120 square feet), the competition being exceedingly keen. The Lord Mayor's silver cup was the coveted prize in this class, and the premier position was awarded to his Lordship's own gardener. Mr. MacIntosh was second; Dr. Bedford Pierce third; and Mr. J. Sinclair fourth; the City Sheriff (H. Leatham, Esq.), being extra. Dr. Pierce's group was noticeable for its rich colouring, and would have secured a higher position had the centre plant been better proportioned and a trifle fresher in appearance. Mrs. Gutch again secured first prize for four incurveds, and also the same award for four Japanese, Miss Stewart, Dr. Pearce, Mr. T. Smith dividing the prizes in the smaller classes of Chrysanthemum plants. Primulas made an excellent display. Messrs. G. Whitehead, T. Lambert, and G. T. Theakstone winning in the above order. For six dinner table plants Messrs. J. Gould, W. B. Richardson, the City Sheriff, and Sir T. R. Walker secured the prizes as named. A silver medal was also awarded to Mrs. Gutch for cultural excellence in the class for four Japanese Chrysanthemum plants.

Cut flowers, with the exceptions of those in the first prize stands, were scarcely up to average form. Sir R. Walker (gardener, Mr. Folkart) won easily with good examples in the class for thirty-six (eighteen incurved, eighteen Japanese), not less than twenty-four varieties. The following varieties were staged—Incurved: Empress of India (2), Alfred Salter (2), Queen of England (2), Mons. R. Bahuant (2), Golden Empress (2) J. Doughty, Emily Dale, Princess of Wales, Violet Tomlin (2), Miss M. A. Haggas, Princess Beatrice, Jeanne d'Arc. Japanese: Mrs. E. W. Clark (2), Boule d'Or (2), Mdle. Marie Hoste (2), Gloire de Rocher (2), Puritan, Florence Davis (2), Stanstead Surprise, Etoile de Lyon, Ed. Molyneux, Vivian Morel, Sunflower, Avalanche, and W. W. Coles. Mr. H. C. Southwell was second, Mr. T. Smith third, and Mr. Alderman Harding fourth. Mr. Folkart again took premier position for twelve incurveds and for twelve Japanese. In the smaller classes Messrs. Harding, C. H. Simpson, G. Whitehead, and others secured prizes.

Fruit was good. For eight distinct varieties, the Hon. Mrs. Meynell Ingram (gardener, Mr. T. Daws) was placed first. Sir Joseph W. Pease, Bart. (gardener, Mr. McIndoe, was second, and Basil T. Wood, Esq., third. For six bunches of Grapes, three varieties, Lord Hotham was first, Marquis of Zetland second, Hon. Mrs. Meynell Ingram, third, and Sir J. W. Pease fourth. For two bunches of black Grapes Sir J. W. Pease was first, Mr. W. B. Richardson second, and the City Sheriff third. In the white Grapes class Lord Hotham was first, Sir J. W. Pease second, and Mr. W. B. Richardson third.

Mr. McIndoe staged a seedling black Grape which promises to be a valuable acquisition, and was certificated by the judges. The parentage is supposed to be Gros Guillaume crossed with Duke of Buccleuch, bunch of good form; berries very large, and well coloured; skin medium; flavour excellent, dispelling the first impression produced by the size of the berry of its relationship to Gros Colman.

Vegetables were exhibited in large quantities and of the highest quality, well deserving an extended report, which pressure on our space forbids.

NORWICH.—NOVEMBER 17TH.

THE annual Exhibition of this Society was held in St. Andrew's Hall on the date named, and was in every way a success, being a great improvement on preceding Shows. To Norwich belongs the honour of holding the first Chrysanthemum Show in England in 1829, at the "Swan Inn." The Honorary Secretary, Mr. Pollard, deserves every praise for his management.

Cut blooms were staged in large numbers, and generally of good quality. The principal class was for forty-eight, distinct, half to be incurved and the remainder Japanese. Mr. W. G. Gilbert, gardener to B. Le Neve Foster, Esq., Sennowe Hall, Norwich, was an easy first,

having well-developed blooms in both sections of the following. Japanese: Etoile de Lyon, Stanstead White, E. W. Clarke, G. Daniels, Vice-President Audiguier, Pelican, G. C. Schwabe, Vivian Morel, Puritan, Val d'Andorre, Avalanche (good), W. W. Coles, Lilian Bird, E. Molyneux, F. Davis, Boule d'Or, Mrs. F. Jameson, Madame Laing, W. Woodcock, La Vesieux, M. Bernard, D. Bryham, John Dyer, and J. Delaux. Incurved: Golden Empress, Empress of India, Golden Queen of England, Lord Alcester, Alfred Salter, Queen of England, Mrs. R. King, Jeanne d'Arc, Princess of Wales, Violet Tomlin, Mrs. W. Shipman, Ami Hoste, Miss Haggas, R. Cannell, Mrs. S. Coleman, Lady Hardinge, Cherub, Richard Parker, Empress Eugénie, Lord Eversley, Princess Teck, Flora Macdonald, Mrs. N. Davis, and Barbara. Mr. Sheddick, gardener to the Hon. A. F. Fellowes, Honningham Hall, was second with well developed Japanese, incurved lighter. Mr. W. Chettleburgh, gardener to Colonel Rows, Worsted Hall, was third.

Japanese in twenty-four distinct varieties made a good display. Mr. Gilbert was first with heavy fresh blooms. Mr. Atkinson, gardener to E. S. Trafford, Esq., Wrosham Hall, was second; and Mr. Sheddick third. Mr. Gilbert just won the first prize for twelve Japanese, distinct, with medium-sized fresh blooms. Mr. Musk, gardener to Lord de Ramsey, Haverling Hall, Norwich, was a close second. Vivian Morel won for Mr. Atkinson premier position for six Japanese, any one variety; and Mr. W. Bishop, gardener to D. Burrell, Esq., Westley Hall, Norwich, second with Avalanche.

For twenty-four incurved, distinct, Mr. Gilbert was an easy first with medium-sized, well finished blooms, the following being the best:—Jeanne d'Arc, Golden Queen of England, Empress of India, Lord Alcester, and Queen of England (very fine). Mr. Atkinson was second. Mr. Gilbert again won for twelve incurved, and also for six, any one variety; the latter were Queen of England in perfect order. Mr. Sheddick was second in both classes. Reflexed varieties were well shown by Mr. Bishop; Mr. Gilbert second. The latter was successful in the classes for six Anemones, six Japanese Anemones, and for twelve bunches Pompons, distinct. The latter were so good as to be awarded the N.C.S. certificate for cultural merit. Mr. Gilbert also staged the best Anemone Pompons. Single flowered varieties in six bunches were well shown by Mr. Turner, gardener to Dr. T. Browne, Royal Naval Hospital, Yarmouth.

To Mr. Gilbert was also awarded the N.C.S. certificate for merit in the forty-eight bloom class, the silver medal of the Society for premier incurved bloom, Queen of England, and for the premier Japanese, Stanstead White. Mr. G. Woodhouse, gardener to H. Trevor, Esq., Plantation, Norwich, had the best arranged hall vase.

Plants made a fairly good display. For six incurved Mr. W. Bolton, gardener to J. G. Snelling, Esq., Eaton Hall, Norwich, was first, the plants being well clothed with foliage, and carrying good blooms. Mr. Woodhouse was second. Japanese, in six varieties, were very creditable, Mr. Bolton again securing the leading award. Mr. Woodhouse staged the best six Pompons and six reflexed.

Orchids and Primulas were also effective. Messrs. Daniels Brothers made a charming display with Poinsettias, Primulas, Arums, and Chrysanthemums "not for competition." Grapes, Pears, Apples, and vegetables were well represented.

EDINBURGH.—NOVEMBER 17TH, 18TH, AND 19TH.

THE Exhibition of the Scottish Horticultural Society, Edinburgh, was held on the above dates. The vast Waverley Market was again requisitioned as an exhibition building, and, as usual, admirably answered. The chief feature of the Show was, no doubt, the cut blooms, and of these the Japanese were distinctly ahead of the other sections. For forty-eight blooms Japanese, in thirty-six varieties, open to all, the Corporation of Edinburgh, offered a cup value £20, with other money prizes. The struggle for the cup lay betwixt Mr. Parker, Impney Hall, Droitwich, and Mr. Fleming, Hillwood, Corstophine. The latter exhibitor was plainly handicapped by the late season, several blooms which would have told heavily being still undeveloped. Mr. Parker's, on the other hand, were in excellent condition, and to these the cup was awarded. In this stand there were some really fine blooms of Vivian Morel, Boule d'Or, Stanstead White, W. H. Lincoln, W. F. Jameson, Mr. G. Herring, Etoile de Lyon, Mrs. E. Beckett, Thunberg, Avalanche, Geo. Atkinson, Mohawk, Mrs. M. Wightman, A. Lunden, Sunflower, Sarah Owen, and W. Tricker. The second prize was secured by Mr. Fleming with good blooms. Mr. Beisant, Castle Huntly, Longforgan, was third; Mr. John Malhar Corona, Broughty Ferry, fourth; and Mr. P. Blair, Trentham, fifth. For twenty-four Japanese Mr. W. Rushton, Cochna, Duntrochar, was first with very fine blooms. The following were extra good:—Mr. E. W. Clarke, Bouquet des Dames, Sunflower, Mons. Bernard, W. H. Lincoln, Sunflower, Etoile de Lyon, W. W. Coles, and Vivian Morel. Mr. Ramsay, Gogar Park, Corstophine, was second with blooms of large size and of fine quality, and Mr. Fleming third.

For thirty-six blooms, eighteen Japanese and eighteen incurved, Mr. Watt, Blackhouse, Skelmorlie, was first, having fine Japs, but very poor unexpanded incurved. Mr. Bell Rossie, Forgandenny, was second. The prize in this instance was a challenge cup and £5, competitors confined to Scotland. No doubt the undeveloped state of the incurved prevented other exhibitors staging. For twelve Japanese and twelve incurved Mr. Parker was first, Japanese rather small but incurved very good. Mr. Blair was second with good incurved. For twelve Japanese Mr. Pirie, Sunderland Hall, Selkirk, was first; Mr. W. Rushton second, and Mr. Watt third.

For twenty-four incurved Mr. Parker took the first place with large

well-modelled blooms, characterised by much freshness. Lord Alcester, John Lambert, Queen of England, Mrs. Heale, Princess of Wales, Mrs. R. King, Violet Tomlin, Miss M. A. Haggas, Jeanne d'Arc, Mrs. Norman Davis were each very fine. The second prize was awarded to Mr. Shoemsmith, Shirley Lodge, Croydon, Surrey, who had blooms not quite so large. For six Japanese and six incurved Mr. Blair was first, and Mr. Watt second; Messrs. Rushton, Watt, and Pirie taking the prizes in the order of their names for six Japanese. There were a number of classes for varieties, six blooms of each. The most noteworthy classes were those of Stanstead White, Mr. Beisant being first; Sunflower, Mr. Fleming being first; and Bouquet des Dames, shown by Mr. W. Rushton. Other classes call for no special mention. Some tastefully arranged bouquets, vases, and epergnes were staged.

Pot Chrysanthemums at Edinburgh are never so good as cut blooms. The present year there was no change in this respect. The best shown were doubtless those to which the first and second prize for eight plants were awarded. The premier prize was awarded to Mr. Holmes, Winton Castle, Pencaitland, and the second to Mr. D. Cavanagh, St. Edwards, Murrayfield. The others shown in this class were of inferior quality all through. Mr. Holmes was also first for four plants with dwarfier though smaller specimens than in the last mentioned. Mr. W. Scott, Canaan Lodge, was second. For four plants of incurved varieties Mr. Holmes was once more successful. Pompons were of poor quality.

Three circular groups of Chrysanthemums were staged on the floor of the market. Unfortunately no name or ticket had been attached to these, and owing to the peculiar method of numbering all exhibits instead of employing names it was not possible to find out to whom they belonged.

Miscellaneous exhibits were numerous. Messrs. Pitcher & Manda, Hextable, Kent, sent a large collection of cut Chrysanthemum blooms, chiefly of American origin, including a good incurved named John Eyreman, a deep lilac flower with a distinct silvery gloss, and distinct. Mr. H. J. Jones, Ryecroft Nursery, Lewisham, staged an extra fine exhibit of well grown Chrysanthemum blooms. Among these were good examples of Charles Blick, a most beautiful yellow, rich and glossy in appearance; J. S. Dibbin, softest yellow; Lord Brooke, Mr. W. H. Atkinson, Mr. J. Whittle, a lovely soft rosy blush form; Miss D. Shea, and many others. This collection, numbering many dozens of fine blooms, attracted much attention. Messrs. Pitcher and Manda and H. J. Jones were awarded silver medals for their respective exhibits. Messrs. Methven & Sons staged a splendid group of Chrysanthemums and other plants, and Messrs. Dobbie & Sons, Rothesay, had miscellaneous exhibits.

Fruit and vegetables were very fine, some splendid collections being shown by various well known northern exhibitors. In addition to those mentioned the following awards were made: gold medal to the Stott Fertiliser and Insecticide Distributor Co., Limited, Barton House, Manchester, for the best exhibit of horticultural appliances in the Show. The exhibit consisted of the Stott syringe, distributor, sprayers, &c., combined with the Company's insecticide Kill-m-Right and fertiliser Feed-m-Right; also to Messrs. John Ford & Co., 39, Prince's Street, Edinburgh. Silver medal, Messrs. R. Sankey & Co., Bulwell Potteries, Nottingham, for pottery; and the Government of Nova Scotia, per Mr. George Lawson, for Apples; Mr. A. Jenkinson, 10, Prince's Street, Edinburgh; and Mr. G. M. Crichton, 18, Prince's Street, Edinburgh.

TADCASTER.—NOVEMBER 19TH.

THE Tadcaster Paxton Society held its first Exhibition of Chrysanthemums, flowers, fruit, and vegetables in the Town Hall. The Exhibition was opened by W. Callum, Esq., B.A. Considering the short time the exhibitors had to prepare for the Show, it proved to be a great success. It was largely attended, and did great credit to those who staged in the various classes.

In the class for groups, not to exceed 60 feet, H. Bromet, Esq. (gardener, Mr. Jewitt), carried off first honours with some very fine blooms. The prize (a cup) was given by the Sunlight Soap Co. C. Shann, Esq. (gardener, Mr. Mortimer), was second; and J. H. Ingleby, Esq. (gardener, Mr. Garnett), third. An excellent group was kindly sent by Mrs. Fielden, Grimston Park (Mr. Clayton, gardener), who also sent a fine plant of Margot, "not for competition."

In the cut bloom class H. Bromet, Esq., was again to the front. In the amateur classes several good exhibits were made, comprising Chrysanthemums in pots, sprays, and buttonholes.

A fine display of vegetables was brought together by the cottagers. Mr. Green of Garforth Nurseries sent a splendid collection of Apples, "not for competition." Mr. Padman, The Nurseries, Boston Spa, lent several fine plants to decorate the room.

A special prize was awarded for two good bellglasses full of honey; also to Mr. Hollings for decoration done with Ivy leaves and Chrysanthemums.

BRADFORD-ON-AVON.

AFTER lapsing for five years, this Society was recuscitated, and promises to soon recover its old prestige. The Secretaries are the Rev. W. N. C. Wheeler, M.A., and Dr. Adye, these gentlemen working very hard to make the Show a success. The principal class was that for twenty-four blooms Japanese, in not less than eighteen distinct varieties. Mr. J. Rogers, gardener to Mrs. Hardwick, was well first, having good fresh blooms of Etoile de Lyon, Pelican, Sunflower, Madame C. Audiguier. Eynsford White, W. H. Lincoln, Stanstead Surprise, Avalanche, Sarah Owen, Mrs. Cannell, Stanstead White, J. Delaux, Mons. Bernard, Madame Baco, Gloriosum, and Mrs. Jameson. Mr. G. Tucker, gardener to Major W. C. Clarke, Trowbridge, was a close second. The first prize

for twelve Japanese varieties, distinct, was also won by Mr. Rogers. Mr. G. Frapwell, gardener to W. Gee, Esq., was second. The third prize went to Mr. S. Bishop, gardener to F. Applegate, Esq. The best twelve incurved were shown by Mr. G. Tucker, who had John Lambert, Empress of India, Matthew Russell, Princess of Wales, Mr. Bunn, Queen of England, Mrs. R. King, Lord Alcester, Empress Eugénie, Lord Wolseley, and Jardin des Plantes, all good. The same exhibitor took the first prize for Anemone-flowered varieties.

The best six plants of Japanese varieties were shown by Mr. A. Gibbs, gardener to C. J. Jones, Esq.; Mr. W. Gibbs, gardener to W. E. Taylor, Esq., being second. Similar positions were occupied by these exhibitors in the class for six incurved varieties. The first prize for a bank of Chrysanthemums was won by Mr. S. Bishop, the second prize going to Mr. H. Kiff, gardener to Major F. Clarke, Trowbridge; and the third to Mr. A. Gibbs. Mr. Bishop was also first for a group of miscellaneous plants, the second prize going to Mr. W. J. Stokes, Hilpertown, Trowbridge. Primulas, as shown by Mr. J. Rogers, were very good, Mr. J. Bishop being second. Fruit was well shown.

PUDSEY AND DISTRICT.

SITUATED between Leeds and Bradford, many of the wealthy merchants of these places have chosen their abode in this district, and the townships of Pudsey, Calverley, and Horsforth have established a Chrysanthemum Society, the Show being held at each place in rotation. This year's Exhibition was held in the Mechanics' Institute at Calverley, and proved to be the best of the series. Cut flowers and groups were the prominent features, and the arrangements made reflect great credit on the energetic Secretary, Mr. C. R. Whitam.

For twenty-four cut blooms in eighteen varieties, twelve incurved and twelve Japanese, Mr. J. Leadbetter, gardener to A. Wilson, Esq., Tranby Croft, Hull, won with good flowers. The following varieties were shown:—Incurved: Empress of India (2), John Lambert (2), Lord Alcester (2), Prince Alfred, Golden Empress, John Doughty, Violet Tomlin, Mrs. S. Coleman, and Empress Eugénie. Japanese: Condor (2), W. W. Coles, Viviani Morel (2), Florence Davis, Madame Baco, Mr. J. Laing, Alba Fimbriata, Sarah Owen, M. J. Pigny, W. H. Lincoln. Messrs. H. Clarke & Sons, Rodley, were second; and Mr. A. Barber, gardener to C. J. Omerod, Esq., Brighouse, third.

For twelve dissimilar, six incurved and six Japanese, Mr. T. Newbould, gardener to A. Jacobs, Esq., was first, Mr. Leadbetter second, and Mr. Barber third. Messrs. Newbould, Clark & Sons, H. Wood, and W. Driver, Pudsey, secured the chief prizes in the smaller classes.

Groups of flowering and foliage plants, arranged for effect, were best shown by Mr. W. Butters, gardener to B. Priestley, Esq., M.P. Mr. Newbould was second with a freer arrangement, but wanting colour.

[Mr. S. Bremmell, one of the prizetakers at Birmingham, desires us to say that his initial letter is not "G.," nor his employer's "W.," as inserted in the report on page 442 last week. In the report of the Grimsby Show, on page 423, the names of gardeners and employers appear to have been transposed. The chief winner in the forty-eight bloom class was Mr. W. Welton, gardener to G. A. Carr, Esq., and for twenty-four blooms Mr. J. Walker, gardener to H. G. Southwell, Esq. Mr. F. Isle, gardener to Mrs. Grange, The Cedars, Laceby, was the premier exhibitor in the group class.]



FRUIT FORCING.

Peaches and Nectarines.—Alexander is undoubtedly the best very early Peach for forcing to afford ripe fruit in April. The fruit is large, sometimes 10 inches in circumference, somewhat flat, with a rather deep suture; colour greenish, streaked with red, and deeper red on the sun side, and when well exposed highly coloured; flesh firm, yet melting, juicy, and well flavoured, and clinging more or less to the stone. It bears carriage well, and owing to its brilliant colour takes well in the markets. This variety is very much confused with Waterloo, which, though an excellent very early variety in cool houses and outdoors, is not desirable for very early forcing. Early Louise, too, always sets the fruit well, and for quality surpasses Alexander, and ripens only a few days later. Notwithstanding the difference in time and cost of producing ripe fruit of Alexander as compared with Hale's Early, Stirling Castle, and Royal George, many growers prefer the latter varieties. Hale's Early is unequalled for handsomeness and quality, but it is not nearly so certain a cropper as Stirling Castle when forced very early. The latter variety is not equal in quality to Royal George, but surpasses Alexander in that respect, whilst the tree moreover is hardier than Royal George, and possesses its inherent properties of sure setting, and may be forced to ripen its fruit in April. Nectarines for very early forcing are confined to Advance, and it is a poor thing compared with Elrue. Early Rivers may soon be available, but its flowers are large, and no Peach or Nectarine with large flowers has yet proven satisfactory for very early forcing.

Earliest House.—Although houses planted with Alexander Peach will afford ripe fruit in April when started at the new year, Advance Nectarine coming in a few days later, it is not desirable to drive trees. Such "express" practice is best exercised with potted trees, and this mode of culture is, perhaps, the best for securing a good supply of very early Peaches and Nectarines. Therefore it is preferable to start permanent trees a month or six weeks earlier, say trees not before forced, early in December, the house being closed at the middle of November. Trees that have been forced before will start with astonishing certainty at the customary period, which need not be before the beginning of December. Houses containing Hale's Early, Stirling Castle, and Royal George Peaches, with Elruge Nectarine, should be started at the same time to supply ripe fruit in May. Replace the roof lights and keep the house close, but admit air freely at and above 50°, employing fire heat only to exclude frost during the first fortnight. The more slowly the trees are excited the stronger will be the blossoms. Supply water to inside borders so as to moisten the soil through to the drainage, and if the trees are weakly soak well with liquid manure, but it must not be too strong. Sprinkle the trees in the morning and afternoon of bright days, not, however, keeping them constantly dripping with water.

Succession Houses.—The house and trees should be thoroughly cleaned when the leaves have all fallen. After clearing away the leaves, the house and trees may be well syringed with water at a temperature of 120° to 140°, the former being fatal to most parasites and their eggs or germs. Care, however, must be exercised not to exceed that temperature. The trees should be unfastened from the trellis and pruned. Then paint the woodwork and trellis if necessary, and limewash the walls. Wash the trees with a softsoap solution, 3 ozs. to a gallon of water, using a brush, and taking care not to dislocate the buds. Tie the trees to the trellis, leaving room for the branches to swell. Remove the remains of any mulching and scrape off the loose surface soil, after loosening it with a fork, and supply fresh loam, chopped moderately small, and mixed with about one-fourth of decayed manure. A good handful of the following mixture may be sprinkled on each square yard, steamed bone meal two parts, and sulphate of potash one part. Inside borders must be kept moist and the house as cool as possible.

Late Houses.—Air should be admitted freely, and, where there are hot water pipes, the heat may be turned on in the daytime, with moderate ventilation, turning it off in the afternoon and throwing the house open at night. Laterals and all gross shoots, also surplus growths, should be removed, keeping the trees rather dry at the roots, but not so as to cause the leaves still remaining to become limp. Trees having a tendency to over-luxuriance should have the roots pruned by taking out a trench at a safe distance from the stem and cutting off all the roots, or the latter may be laid bare, and some of the strongest be detached and removed. If the roots are deep it is better to lift the trees, and after shortening the long and strong and bare roots, lay those left in fresh soil nearer the surface.

Lifting and Planting Trees.—Any trees that fail to set or stone their crops satisfactorily may be lifted and root-pruned; but it is best done when the leaves are mature and before they are entirely fallen. It may, however, be carried out with trees that will not be started within a month or six weeks, but if the root-pruning is severe they will be more or less prejudiced in bearing the following year. Fresh trees should be introduced as soon as the leaves are nearly off and can be safely transplanted. Due border preparation should be made for them. Good calcareous loam is most serviceable for planting, and if it extends a little beyond than the spread of the roots it will serve the trees two or three years, and can be added to as the roots extend. Trees for planting in houses are best three or more years trained to walls or trellises in cool structures, as with care in lifting and planting they will afford some fruit the succeeding season. Failing these, two or three years trained trees from nurseries answer well, and being furnished with bearing wood, lifted with an abundance of fibres, carefully planted, and not forced too rapidly, they will afford a moderate crop of fruit the first season. Younger trees take one or two years to become furnished before they are in a fit state for bearing.

Figs.—**Early Forced Trees in Borders.**—These do not force as readily as potted trees, and should not be started before the new year. The trees must now be untied from the trellis and pruned. The extremity growths must be cut back, so as to give place for promising successional shoots, cutting away those fruited to the limit to where the succeeding branches with their young shoots start. Also thin the shoots where too crowded, and remove any elongated spurs, retaining such only as are short-jointed and fruitful. Thoroughly cleanse the house, red spider lurking through the rest season being ready to emerge and to carry on the devastating work. Wash, therefore, the woodwork with scalding water, but keep it from the trees; also scald the walls and wash them with quicklime and a handful of sulphur to a pailful of lime. Wash the trees with softsoapy water, 3 ozs. to a gallon using a brush so as to dislodge scale, and to reach into every angle and crevice, taking care not to injure the young wood. Secure the trees to the trellis after repeating the wash or a dressing of an insecticide, and in tying allow room for the growth of the branches. Fork the surface of the border lightly, remove the loose material, and apply a top-dressing of turfy loam moderately rough, to which a 9-inch potful of crushed half-inch bones and twice as much wood ashes and lime rubbish has been added to every good barrowload of loam—say 3 bushels. Ventilate freely at all times, keeping the house dry and cool, merely excluding frost.

Lifting Unfruitful Trees.—Those casting their fruit untimely or growing too rampantly to produce any, should be lifted and severely

root-pruned and the roots restricted to narrow borders of sound calcareous loam, with sufficient lime rubbish or grit to render them permeable to water. The trees should also have a firm soil to cause the roots to produce numberless fibres, thus giving them a large feeding surface in a small compass, where they can be fed to any extent by surface dressings and liquid applications. The curtailment of the roots must be preceded or directly followed by a judicious pruning of the head, cutting away the gross and useless wood, leaving the best and most promising in the most favourable places for extension. The sooner these matters are attended to after the foliage becomes mature the better.

PLANT HOUSES.

Gladiolus Colvillei The Bride.—This is an excellent plant when six or eight corms are placed in 5-inch pots and grown for flowering in the greenhouse. The corms should be covered with half an inch of soil, and then stood in a cold frame, covering the pots with about 1 inch of ashes or cocoa-nut fibre refuse, allowing them to remain until the plants grow through, when they should be gradually exposed to light and placed in a cool house close to the glass.

Carnation Miss Jolliffe.—Strong layers potted early and given cold frame treatment are producing a central flower stem. The strongest may be placed at once into 5-inch pots and put in a greenhouse where they will flower freely during early spring. If the plants are not needed for this purpose the points may be pinched out, which will cause them to branch freely. It is time that all layered outside for growing under glass were potted, so that they can become established before the winter.

Pelargoniums.—Keep these on shelves close to the glass, where the temperature will not fall below 40°, or rise beyond 45° at night. Abundance of air must be given during the day. Young stock well established in 3-inch pots should be placed into 5-inch. The point of each plant ought to be removed, if this has not already been done. Late cuttings, poorly rooted, may be placed on a shelf where a temperature of 50° to 55° can be maintained until they commence to root and grow, when they must be hardened to cool airy treatment. Old plants cut back late may have the soil shaken from them, and be repotted into smaller pots. Great care is necessary in watering these plants, or else their foliage will damp and become spotted. They should be potted firm and kept on the dry side, but care must be taken to give them sufficient water to prevent their fresh-growing roots perishing.

Petunias.—Young plants in 3-inch pots should be placed on a shelf close to the glass. When they have well filled these with roots they ought to be transferred to 5-inch pots.

Imantophyllums.—These should be kept perfectly cool and on the dry side at their roots, or else the tips of their foliage are very liable to die back. Where seed on any specially good kinds is ripe it should be dried and then sown in a pan or pot, and placed in a temperature of 60°. Seedlings ought to be grown in heat, where they will make much greater progress.

Amaryllis.—Even the latest of these should have completed their growth. If the foliage has practically died away store them under the stage where they can enjoy a lengthened period of rest. Some of the earliest that have been well rested may have the old soil shaken from them, repotted, and placed in the forcing house. The old Johnsoni varieties are useful for this purpose. Care is needed after flowering to prevent the foliage drawing up weakly. They do fairly well on a shelf where heat is maintained to assist them to make their growth.

Araucaria excelsa.—This is a capital room plant; in fact, one of the best that can be grown. Young plants in 5-inch pots should not be confined at their roots if rapid progress is needed. The plants may be placed into 7-inch pots. It is a mistake to overpot them. This plant grows much more rapidly where a little higher temperature than that of an ordinary greenhouse is maintained, but it must not be rushed up quickly in heat.

Chrysanthemums.—As these go out of flower remove any weakly growths, and place the plants in a cool house, where they will soon produce strong sturdy cuttings that are certain to root and do well afterwards. Cuttings of the earliest flowering section may be taken off and rooted whenever they are ready. It is best to strike them under hand-lights in a cool house. Careful feeding should be practised with those that are developing their blooms. Late kinds must not be neglected. Give them abundance of air, and syringe them gently twice on fine days. Ventilate the structure early in the morning where large flowers are expanding, or the work of the season may be destroyed by the flowers damping or becoming spotted.

Lilium Harrisii.—Bulbs should be removed from the ashes under which they were placed to start. Place the plants on a shelf in the greenhouse where slow but sturdy growth will be made. Give water as soon as they are removed from the plunging material, and be careful not to allow them to become dry.



APIARIAN NOTES.

QUEENS.

THE progeny of two queens from a divided hive having access to one common super can return to either hive or compartment, so that when the bees come into contact with the queen,

they, being strangers, are sure to encase her, and if not killed she may be mutilated. Egg-laying will to a great extent be suppressed, and young queens brought forward at the very time eggs are most required for keeping up the strength of the colony.

Queen cells, to be raised for the queen to deposit the egg for a future reigning one, are still believed in by many people. This is a fallacy. Eggs are sometimes laid in an old cell or in a pseudo one, but these eggs are deposited by "fertile workers." A hive in a normal state raises all its queens in virgin cells—i.e., cells formed round the egg intended for a queen, and in no other.

STRONG HIVES.

When honey is to be had the strong hive is the one that will gather most, but if there is no honey to gather, weak hives best preserve what they have. A state of matters like this is not envied by bee-keepers. When a strong hive swarms better results will be obtained if two swarms are united. The way to do this is to thoroughly spray both with a very thin syrup of sugar or honey until the bees are gorged, when they may be put together without the slightest risk of fighting. There is nothing better for putting one swarm to another than the swarm catcher. This process refers to a swarm being joined to another that has been hived some days. Two swarms of the same day may sometimes be successfully joined without any precaution, but this cannot be depended on to be a success. It is, therefore, much better to spray all the swarms before uniting, and where possible to remove one of the queens, and restore her to one of the swarmed hives after destroying all queen cells.

BROOD COMBS.

With the exception of the precaution given at page 450, there is only one other of importance to be attended to. When a strong hive has been strengthened with brood, to prevent it being destroyed the bees ought to be fed liberally for several days, and if the weather is unfavourable artificial pollen ought to be supplied so as to prevent eggs being eaten or young bees drawn. That is a far more common occurrence than many suppose, and bringing forward all the brood or eating out part of it is what constitutes a profitable or non-profitable hive. I have so often described the most suitable hive in these columns that it is superfluous to enlarge upon the subject. The Stewarton hive was admirably adapted for working the progeny of two queens together—that old system which gave such grand results in a country ill-adapted for bee-keeping.

HIVERS.

These are a cumbrance in the apiary, and add considerably to the expense of it. The latest American idea is simply a modification of the old Scottish plan, working two straw hives side by side; and, of a later date, Dr. Dunbar's plan with bar hives, which Messrs. Neighbour nearly forty years ago made a practical success. Of course it had not the queen excluder zinc attached, which is a great hindrance to the free working of the bees.—A LANARKSHIRE BEE-KEEPER.



* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Wholesale Prices (Queenstown).—What you send is clearly and ostensibly an advertisement, and we respectfully submit that you have no more right to expect us to insert it than anyone has to utilise any portion of your property without paying rent.

Chrysanthemum Mrs. E. W. Clarke (W. T. Smith).—The bloom sent must have been a very good one when fresh; and though it has, as you say, been cut a week, and been two days at a show as the premier Japanese, it is yet $7\frac{1}{2}$ inches in diameter and very full in the centre.

Chrysanthemum Sport (W. A. K.).—If you succeed in establishing the sport from Empress of India you will probably not find the variety very dissimilar to the Queen of England. The bloom sent is young and undeveloped, but suggests a reversion to the original type—the head of the royal family of Queens.

Repotting Climbers (Valley).—The safest time for transferring the plants to larger pots, as you propose, will be in the spring, just when growth is starting. If the plants had been ours we should probably have repotted them a month ago, in order that the roots might have taken possession of the fresh soil before winter.

Soil for Magnolias (Inquirer).—Magnolias succeed in soil of a rather sandy nature, and you will not err if you procure turfy loam and incorporate therewith about a tenth part of wood ashes and the same quantity of crushed mortar rubbish, a little more or less, as the loam may be of a heavy or light texture. Plant firmly, loose and too rich soil promoting succulent growth. Peat may be added to strong soil.

Interpretation of Schedule (Exhibitor).—We do not see anything in the conditions that would exclude either Dracenas or Pandanus from the class. If objection is raised on the ground that they are not "Evergreens" it would be a very technical one and not sustainable. The object was evidently to afford relief to Chrysanthemums and produce a pleasing effect.

Fruit Trees Infested with Lichen and Canker (Anglo-Scot).—When the trees are damp with dew, or after rain, they may be dusted with quicklime, coating them well in every part. This will kill the lichen and moss, and that falling on the ground will have a beneficial effect. Afterwards apply a top-dressing of 5 lbs. of bone meal, 2 lbs. of sulphate of potash, mixed, sprinkled on the surface as far outwards from the stems as the branches extend, at the rate of 4 ozs. per square yard.

Water from Colliery (Aqua).—If the water contains an alkali it will turn red litmus paper dipped in it blue, or if you procure a red litmus solution and pour the supposed alkali water into it it will turn the red litmus solution blue. An excess of alkali is highly injurious to plants, either for watering or syringing, more quickly by the latter than the former process. The best means of neutralising alkalies is by gypsum, but it is hardly available for large quantities of water employed for garden purposes, though it has an excellent effect on soils.

Stimulant for Bulbs in the Open Border (F. J.).—The best stimulant to apply as a top-dressing at this time of year is guano, using 2 ozs. per square yard, sprinkling it on the surface between the plants, and point in very lightly. If you cannot do that, supply the guano in liquid form, 1 oz. to a gallon of water, using 2 or 3 gallons per square yard. The drainings of stables, cow houses, or sewage (not too strong) may be employed with advantage. It is safe to take up and replant bulbs that are just breaking through the surface of the soil, provided they can be lifted with much earth, so as to preserve the roots. If they are much disturbed at the roots the bloom and growth for another year will be much interfered with. The proper time to transplant outdoor bulbs is directly after the foliage has died down. The shorter the time they are kept out of the ground the better.

Forcing Asparagus for Market (Asparagus).—The best way to force Asparagus is to lift the roots carefully, pack them closely in light rich soil, and cover the crowns with 4 inches of light compost. The roots are better placed on a hotbed, but they will produce good heads without, only maintain a suitable temperature. That you name will bring them on slowly, and produce fine heads if the plants are strong. Light is necessary to secure the "grass" being coloured to the extent of an inch at the tip, and the heads should be about 6 inches in length. The heads are put up in bundles of twenty-five, fifty, or 100, according to their size. Sprue or small forced Asparagus is put up in bundles of as many heads as can well be grasped in the hand, and about 6 inches in length. The bundles can be packed in punnets with a piece of coloured paper around them, leaving the tips exposed as evidence of the quality. The bundles being secured, the punnets can be packed in light boxes so as to prevent their moving.

Gypsum as Manure for Vines (F. A. B.).—Gypsum (sulphate of lime) is valuable as a manure for Vines because it contains lime, 32.56 per cent., sulphuric acid 46.51 per cent., and water 20.93 per cent. in its hydrated state. It is especially valuable for soils that are poor in lime and sulphates, and those which have become alkaline or saline, Vines requiring only a modicum of soda. It is a direct and indirect source of Vine food, but is most pronounced in effect in soils that contain fixed potash, which it liberates from certain insoluble compounds of the soil, whilst upon those poor in potash it is more as a fixer than a liberator of plant food that it does good service. It should be ground very fine, and may be used at the rate of a peck per rod for the purpose named—namely, supplying lime and sulphur. But it is chiefly used in special manures. One for Vines is made as follows:—Steamed bonemeal 3 lbs., nitrate of potash 1 lb., sulphate of lime 1 lb.; mix, and apply at the rate of half a pound per square yard, giving the first dressing when the buds of the Vines push, and repeat at intervals of a month or six weeks till the Grapes change colour for ripening.

Peach Trees Infested with Brown Scale (Shropshire).—To effect the destruction of the scale the water used in syringing the trees ought not to be less than 140°, nor exceeding 160°. At that temperature it will destroy all the scale it reaches without injury to the buds or wood, provided the former are dormant and the latter well ripened. Throwing the house open at night to a sharp frost, and syringing the trees with water, has a decidedly beneficial effect in freeing them of scale; but it requires to be repeated to effect a complete riddance. The better plan is to remove the roof-lights, and let them remain off until the buds swell or the time arrives for starting the trees. Under fixed roofs we syringe the trees with water at 140°, and then dress them with a solution of softsoap, 4 ozs. to a gallon of water, adding a small wineglassful of petroleum; and after churning with a force pump until thoroughly emulsified, apply to the trees with a brush, taking care not to dislocate the buds.

Metal Stakes (C. W.).—The effect of small wrought iron stakes in pots upon the soil is not material if they do not remain so long as to become much corroded. The oxide of iron is then more injurious than beneficial, unless it is ammoniated through the plants being fed with ammoniacal manure, such as guano and sulphate of ammonia, in which case the iron aids in the formation of the green colouring matter (chlorophyll) of the leaves and enlarges the growth generally. The galvanised iron stakes are not likely to be materially affected by the acids of the soil. We have not found any appreciable detriment to accrue to plants by the use of either kind of stake mentioned.

Improving Sandy Soil (Anglo-Scot.).—A dressing of lime would improve the sandy peat soil by rendering its vegetable matter more available as plant food, but an excessive quantity would be injurious. About one bushel per rod would be a sufficient quantity to apply, using it fresh. Place the lime in convenient small heaps, covering with a little soil, and when "fallen" spread evenly and fork in lightly, choosing dry weather. If the soil is not very peaty it would be desirable to employ Thomas's phosphate powder instead of the lime at the rate of 10 cwt. per acre or 7 lbs. per rod, as a top-dressing, and leave it for the rains to wash in. The lime should not be mixed with the decayed manure, but apply the former now, and the latter early in spring. As an artificial manure use 3 cwt. superphosphate and 2 cwt. nitrate of soda, mixed, per acre, or 3½ lbs. per rod, and apply it at the time of sowing or planting, or when the crops are appearing above ground.

Extirpating Mealy Bug on Vines (Buggy).—It is not possible to extirpate mealy bug on Vines by one winter dressing, as they take care to find safe quarters before the Vines are pruned, and some are certain to appear soon after the Vines start into growth. We have not found anything better as a winter dressing than syringing the house well in every part with a petroleum mixture, a wineglassful to 4 gallons of water, kept well mixed by one person syringing into the vessel whilst another applies it thoroughly to every part of the structure and Vines. Then, after pruning the Vines, stripping off the rough and loose bark, wash them with a softsoap solution 3 ozs. to a gallon of water. Afterwards apply with a brush a petroleum emulsion 4 ozs. softsoap dissolved in a gallon of boiling water and a wineglassful of petroleum churned violently for several minutes with a force pump or garden engine into the same vessel until thoroughly emulsified. Keep a sharp look out for bug in spring, and if any appear touch each with a very small brush dipped in methylated spirits. Have nothing to do with coal tar, though it is efficacious and not injurious when very carefully used.

Names of Fruits.—*Notice.*—Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. (J. D.).—1, Cockle's Pippin; 2, Kerry Pippin; 3, worthless; 4, Fearn's Pippin; 5, worthless; 6, Autumn Bergamot. (J. Milne).—1, Nanney; 2, probably local, and worth grafting on a young stock; 3, Dumelow's Seedling; 4, is not Wellington, and not known; 5, probably local; 6, Waltham Abbey Seedling. (Jarman & Co.).—Waltham Abbey Seedling. N.B.—Fruits that do not arrive before Wednesday can seldom be named in the current issue.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (Briton).—Vanda cœrulea. (W. A. J.).—1, Polypodium aureum; 2, Adiantum cuneatum cristatum; 3, frond too immature to identify; 4, Pteris longifolius; 5, Adiantum pubescens; 6, Gymnogramma chrysophylla.

TRADE CATALOGUES RECEIVED.

Fisher, Son & Sibray, Handsworth Nurseries, Sheffield.—*Roses.*

The "Stott" Specialities, Barton House, Deansgate, Manchester.—*Price List and Testimonials.*

Dobbie & Co., Rothesay, N.B.—*New Violas and Pot-root Dahlias.*

Little & Ballantyne, Carlisle.—*Forest and Ornamental Trees and Shrubs, &c.*

COVENT GARDEN MARKET.—NOVEMBER 23RD.

Trade slow, good supplies with no alteration in prices.

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beans, Kidney, per lb.	0	6	to	0	Mustard and Cress, punnet	0	2	to	0
Beet, Red, dozen	1	0	0	0	Onions, bunch	0	3	0	5
Carrots, bunch	0	4	0	0	Parsley, dozen bunches	2	0	3	0
Cauliflowers, dozen	2	0	3	0	Parsnips, dozen	1	0	0	0
Celery, bundle	1	0	1	3	Potatoes, per cwt.	2	0	5	0
Coleworts, dozen bunches	2	0	4	0	Salsafy, bundle	1	0	1	6
Cucumbers, dozen	1	6	3	6	Scorzonera, bundle	1	6	0	0
Endive, dozen	1	3	1	6	Seakale, per basket	3	0	0	0
Herbs, bunch	0	3	0	0	Shallots, per lb.	0	3	0	0
Leeks, bunch	0	2	0	0	Spinach, bushel	3	0	3	6
Lettuce, dozen	0	9	1	0	Tomatoes, per lb.	0	2	0	6
Mushrooms, punnet	0	9	1	0	Turnips, bunch	0	3	0	4

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, half sieve	1	0	to	3	Lemons, case	15	0	to	35
" Nova Scotia, per barrel	12	0	17	0	Oranges, per 100	4	0	9	0
Cobbs, Kent, per 100 lbs.	0	0	100	0	Peaches, per dozen	0	0	0	0
Grapes, per lb.	0	6	2	0	St. Michael Pines, each	3	0	6	0

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.

Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms	3	0	to	6	Mignouette, 12 bunches	3	0	to	6
Bouvardias, bunch	0	6	0	9	Mimosa, French, per bunch	1	0	1	6
Carnations, 12 blooms	1	0	3	0	Orchids, per dozen blooms	3	0	12	0
Chrysanthemums, dozen blooms	1	6	4	0	Pelargoniums, 12 bunches	8	0	12	0
Chrysanthemums, dozen bunches	6	0	12	0	Pelargoniums, scarlet, doz. bunches	6	0	9	0
Eucharis, dozen	3	0	6	0	Poinsettia, per bloom	0	4	0	9
Gardenias, per dozen	2	0	4	0	Primula (double) 12 sprays	0	6	0	9
Geraniums, scarlet, 12 bchs.	6	0	8	0	Pyrethrum doz. bunches	3	0	6	0
Hyacinth, Roman, 12 sprays	0	9	1	0	Roses (indoor), dozen	0	9	2	0
Lilac, white, French, per bunch	4	6	6	0	" Red, per doz. blooms	1	0	2	0
Lilium longiflorum 12 blooms	9	0	12	0	" Tea, white, dozen	1	0	2	0
Lilium (var.) doz. blooms	3	0	5	0	" Yellow, dozen	2	0	4	0
Lily of the Valley, 12 sprays	10	0	12	0	Tuberoses, 12 blooms	0	4	0	9
Maidenhair Fern, doz. bchs.	4	0	6	0	Violets, Parme, French, per bunch	3	0	4	0
Marguerites, 12 bunches	2	0	4	0	Violets, Czar, French, per bunch	2	0	2	6
					Violets, Victoria, French, dozen bunches	1	6	2	6

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (golden) dozen	6	0	to	12	Ficus elastica, each	1	6	to	10
Begonia, per dozen	6	0	12	0	Foliage plants, var., each	2	0	10	0
Chrysanthemums, per doz.	6	0	9	0	Heliotrope, per dozen	6	0	9	0
" large plants, each	1	0	3	0	Lycopodiums, per dozen	3	0	4	0
Cupressus, large plants, each	2	0	5	0	Marguerite Daisy, dozen	6	0	12	0
Dracæna terminalis, dozen	18	0	42	0	Mignonette, per dozen	6	0	12	0
" viridis, dozen	9	0	24	0	Myrtles, dozen	6	0	9	0
Euonymus, var., dozen	6	0	18	0	Palms, in var., each	1	0	15	0
Evergreens, in var., dozen	6	0	24	0	" (specimens)	21	0	63	0
Ferns, in variety, dozen	4	0	18	0	Pelargoniums, scarlet, doz.	6	0	9	0
" (small) per hundred	6	0	8	0	Primula, single, doz. pots	4	0	6	0
					Solanums, per dozen	9	0	12	0



PROFITABLE FARMING.

IN continuation of the teaching of our last article on Wheat-sowing, we desire to call attention to each detail of farm management which may reasonably be calculated to afford something towards a profitable result—a fair return upon capital invested in land cultivation. We said in that article that with land rich in fertility, and fine heavy seed, 80 or 90 bushels an acre of Oats may be had. This statement was well within bounds, that quantity being frequently exceeded; but alas! it is much more frequently not approached by 30 or 40 bushels. Surely it must be worth while setting ourselves to meet hard times by improved cultivation of any crop out of which profit is possible. As well cry for the moon as expect a return to the excessively high rates of a day that is past and gone never to return. No, our markets are open to the world, and they will continue open; let us therefore resolve to bow to the inevitable, and make the best of things by leaving off the culture of certain crops, or reducing them to safe limits, and adding others which under good management are known to answer. More than this, let us rise superior to the promptings of petty vanity, and have the good sense to admit that our practice is capable of change for the better. Depend upon it the farmers' advisers—leaders of thought, who tell them that persistence in Wheat-growing anywhere and everywhere is right, that their remedy lies in excessive rent reduction and a duty on imports—are the farmers' enemies, and not their friends.

Never, probably, has there been such a demand for rent reduction as there was this Michaelmas. But how has this been done? Have tenant farmers come forward in a manly way, saying to landlord or agent, "We have earnestly set ourselves to meet our difficulties by changes in the management of our farms, where such changes appeared possible and were calculated to prove profitable?" Have they invited inspection and fair criticism? Notice of intention to leave the farm has been the first step, followed by an intimation of a desire to remain

if the rent is reduced—something like a threat, followed by a plea for reduction. This is not right, and it is no wonder that some landlords lose patience, and say that a tenant who acts in such a manner must go. In two instances during the last twelve months we have done everything possible for the convenience and comfort of the tenants, spending a considerable amount upon repairs, relieving them of responsibility for anything but rent, doing drainage wherever it appeared necessary, erecting new hovels out on pasture for shelter, arranging also to improve poor pasture as it is drained by dressings of mineral manures, yet they have been so ill advised as to act as we say. The notice to leave his farm by one of them was so quickly followed by several applications for it that he asked to re-hire, but he was too late.

We have shown that Wheat-growing should be confined to the land most suitable for it, and that Oats under high cultivation answer where Wheat fails to afford a profit. Let us see what else is possible. Milk, despite all that is said to the contrary, is profitable. Since we published the article containing the statement that this year has been the worst Derbyshire dairy farmers, *i.e.* milk producers for sale, have ever known, we have visited a gentleman in that county who has a large estate and who does all he can for his tenants. He said he had been to Denmark and made close inquiry into dairy farming there, especially into the butter-making, which has proved so profitable that the producers have found it worth while to open shops for the sale of it here. He came back resolved to establish a factory for his tenants, but upon going closely into the matter he found they were doing better with the sale of milk than was possible if the butter factory was set going. Though his decision may not have been quite reliable, it tends at any rate to show that milk-selling is not so bad a business as it is said to be.

So much depends upon the individual. We have a tenant on an estate where Stilton cheese making is the staple—and a highly profitable industry—who makes no cheese, simply because his wife makes such good butter that the whole of it is sold to private customers at a high price. Another tenant sends his milk to London or Leicester after the cheese season ends, that is from the end of October till the end of March, because he finds it answer best to do so rather than turn to making inferior butter, as most of his co-tenants do during winter. But he takes care to have several heifers calving during winter, both to keep up the supply of milk and to sustain its quality. In other words he is an able man who is not content to follow mere custom, but thinks and acts for himself, and adapts his practice to local circumstances and market requirements. He and his family all work hard, they are prosperous and will continue so, simply because in them industry and thrift are united to intelligence and business capacity.

WORK ON THE HOME FARM.

Winter corn sown early is looking remarkably well, both Wheat and winter Oats being very strong, and Rye is so forward and vigorous that even now it would be useful for grazing if required. But herbage is poor in quality now, and those who make cheese and butter from cows out on pasture in November know to their cost how very much more milk is required to make a given quantity of either in comparison to results in spring and summer. It was with much regret that we saw many fine beasts out on pasture during the past week. They had been summered so well that they were almost ready for the butcher, but there they were out on the pasture without any protection from cold or wet, and were bound to fall off in condition. The farmer said he was holding them over till the glut of beasts on market was at an end. So far he was wise, but the beasts should have been in a yard a month ago, where they could be quiet, warm, and dry, as then the food consumed would have sent them to market in such high condition and is impossible now. Though on good pasture, with cake pans, they were running about in a restless, unsatisfactory manner, and must lose flesh for every good reason.

How heavy the annual loss is from the exposure of cattle in winter! We were driving in the High Peak district of Derbyshire just at day-break on November the 18th. The roads were hard with frost, and hoar frost covered the pastures. Among the walled enclosures groups of cattle were lying out in the open, not a hovel of any sort being visible.

There many of them remain all the winter, and the loss is caused by their low condition in the spring. It is simple nonsense to say the hardy animals can bear it; that is not the point. It is a question of profit and loss, easily solved, and stupidly ignored or misunderstood. To landlords we say, Help your tenants by providing means of shelter; the cattle will go readily enough into any open hovel where they can obtain protection from wind and rain.

Take every possible precaution with cows or heifers due to calve during the winter months, keeping them quiet and well cared for in every way. As the calving time approaches for each one withdraw it from the herd, placing it in a lodge opening into a small yard. The lodge should be sufficiently commodious for the calving, and ought to be closed then, also on very cold nights before the calving, and entirely afterwards.

WEBB & SONS' ROOT CROP COMPETITION, 1892.

THE Judges (Mr. Joseph Beach, The Hattons, Wolverhampton, and Mr. W. H. Hill, Claverley, Bridgnorth) appointed to award the valuable prizes offered by Messrs. Webb & Sons, of the Royal Seed Establishment, Wordsley, Stourbridge, for the best root crops grown from their seeds and with the aid of their special manures, have made the following awards:—

District 1.—Five Acres of Webbs' Swede, open to the counties of Salop, Stafford, Montgomery, Warwick, and Leicester, first prize, £15 15s., Mr. G. H. Simcock, New Farm, Woodhouses, Whitchurch, 38 tons per acre; second prize, £10 10s., A. Wynne Corrie, Esq., Park Hall Farm, Oswestry, 37 tons 8 cwt. per acre; third prize, £5 5s., Mr. W. Nunnerley, Kenwick, Ellesmere, 33 tons 17 cwt. per acre.

Three acres of Webbs' Mangold:—Prize £5 5s., A. Wynne Corrie, Esq., Park Hall Farm, Oswestry, 41 tons 15 cwt. per acre.

District 2.—5 acres of Webbs' Swede, open to the counties of Hereford, Monmouth, Brecon, Glamorgan, Radnor, and Pembroke. First prize, £15 15s., the Marquis of Bute, Blackweir Farm, Cardiff, 40 tons 10 cwt. per acre; second prize, £5 5s., Mr. J. Thomas, Tile House, Beerton, Cowbridge, 37 tons 16 cwt. per acre.

3 acres of Webbs' Mangold.—Prize £5 5s., Mr. J. H. Harding, Monachty Farm, Maindy, Cardiff, 54 tons 15 cwt. per acre.

District 3.—5 acres of Webbs' Swede, open to the counties of Oxon, Bucks, Berks, Wilts, Hants, Surrey, Worcester, and Gloucester. First prize, £15 15s., Mr. E. F. Bellamy, The Moat, Newent, 33 tons 14 cwt. per acre; second prize, £5 5s., Mr. F. Cole, Dodford Farm, Christian Malford, Chippenham, 30 tons 6 cwt. per acre.

3 acres of Webbs' Mangold.—Prize £5 5s., Mr. E. F. Bellamy, The Moat, Newent, 37 tons 18 cwt. per acre.

District 4.—5 acres of Webbs' Swede, open to the counties of Bedford, Cambridge, Cornwall, Cumberland, Cheshire, Derby, Devon, Dorset, Durham, Essex, Hertford, Huntingdon, Kent, Lancaster, Lincoln, Middlesex, Norfolk, Nottingham, Northampton, Northumberland, Rutland, Somerset, Suffolk, Sussex, Westmoreland, York, Carmarthen, Carnarvon, Cardigan, Denbigh, Flint, and Merioneth. First prize, £15 15s., Mr. H. Hocknell, Heywood Farm, Audlem, 47 tons 12 cwt. per acre; second prize, £5 5s., Mr. Alfred Hocknell, Newtown, Audlem, 45 tons 4 cwt. per acre.

District 5.—3 acres of Webbs' Mangold, open to the county of Lincoln. Prize, £5 5s., Mr. R. Smith, High Bank, Spalding, 37 tons 12 cwt. per acre.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1892. November.		Barometer at 32°, and Sea Level.	Hygrometer.		Direction of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
Sunday ..	13	29.874	deg. 52.8	deg. 51.3	S.	deg. 46.0	deg. 55.3	deg. 45.0	deg. 72.9	deg. 36.7	0.049
Monday ..	14	29.841	51.7	50.4	S.E.	46.9	60.8	49.9	79.6	42.8	0.010
Tuesday ..	15	29.746	55.0	54.3	S.W.	47.9	55.8	51.0	57.0	45.0	0.773
Wednesday ..	16	29.780	50.9	50.2	N.	48.9	51.6	50.1	56.7	47.2	0.469
Thursday ..	17	30.033	45.6	43.4	N.	48.2	47.9	44.2	62.1	42.6	—
Friday ..	18	29.968	40.6	39.3	W.	46.9	42.1	38.1	46.6	33.2	—
Saturday ..	19	29.725	41.5	41.4	E.	45.0	48.4	34.7	55.2	28.4	0.095
		29.853	43.3	47.3		47.1	51.7	44.7	61.4	39.4	1.396

REMARKS.

13th.—Fair throughout, and generally sunny from 11 A.M. to 1 P.M., and at times in afternoon; showery after 9 P.M.

14th.—Bright sunshine from 9.30 A.M.; fine evening, slight shower at 10.30 P.M.

15th.—Almost incessant drizzle till 2 P.M., then fair till 6.30 P.M., and heavy rain in evening and night.

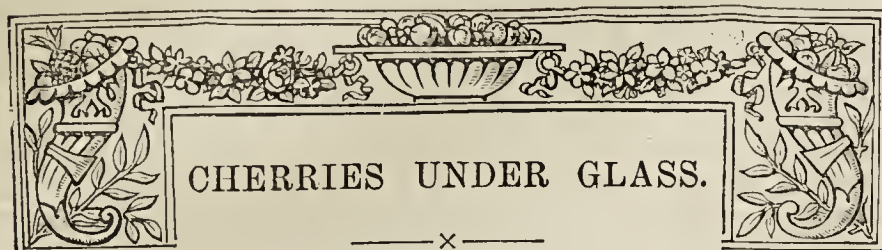
16th.—Almost incessant rain from midnight to midnight.

17th.—Fine and dry, with gleams of sunshine at midday.

18th.—Fair early; sun visible through smoke cloud at midday; foggy about sunset.

19th.—Generally cloudy, and at times foggy; but occasional sunshine.

The week was noticeable for the warmth and sun heat on the 14th, and for the heavy rain of the 15th and 16th; night minima generally high.—G. J. SYMONS.



NO fruits grown in gardens are more difficult to keep from birds, wasps, and bluebottle flies than are sweet ripe Cherries. Pyramid Cherry trees in gardens often cost as much in keeping birds at bay as the fruit is worth. Fruit cages—that is, a plantation of Cherries enclosed in wire netting—exclude birds; but ripe Cherries exposed to the weather crack in proportion to the amount of the sugar they contain, spoiling just the same as Grapes do in a moist stagnant atmosphere, or as Mulberries soon rot on the ground from their undergoing the vinous, so called, but really sugary fermentation. Trees growing against walls can be managed better, but even there an unfavourable beating of rain on those not protected by leaves causes the fruit to burst. Therefore, we have had the conclusion forced upon us that to fully enjoy the best dessert Cherries for any length of time they must be grown under glass. No expensive house is needed to have a supply of Cherries from the end of May until the autumn, but the structure must be light, well ventilated both at the top and bottom, and occupy a dry and sunny position. They can be grown without any artificial heat, and so as to afford a long supply of delicious fruit, for no fruit hangs better than Cherries if they are kept dry.

The trees may be grown in pots or planted out, bushes, pyramids, or standards answering well in appropriate positions. When the trees are in pots they can be placed outdoors after the fruit has been gathered, the wood is sufficiently firm and the buds well formed, but not over-developed. If the trees are planted in the borders, the roof lights ought to be moveable, as the rain and dew refresh and invigorate the trees, whilst the soil is moistened through to the drainage. Cherries under glass demand as sweet an atmosphere as they enjoy outdoors. To stew the trees like Vines in the early stages of their growth is certain to bring off all the blossoms or young fruit, hence the importance of providing plenty of air.

A dozen good Cherries for growing under glass are Early Rivers, Early Red Guigne, Bigarreau Jaboulay, Empress Eugénie, Bigarreau de Schrecken, May Duke, Black Tartarian, Governor Wood, Elton, Bigarreau Noir de Gueben, Tradescant's Heart (large black Bigarreau), and Emperor Francis. A select six varieties are Early Rivers, Empress Eugénie, Black Tartarian, Governor Wood, Bigarreau Noir de Gueben, and Emperor Francis. Three of the very best—Early Rivers, Governor Wood, and Tradescant's Heart (large black Bigarreau). The chief desiderata in cultivating Cherries in a cheap cold house are to admit air freely, keep the trees free of aphides and red spider, syringe freely after the fruit is set until it commences to ripen, supply water and nourishment to the roots, and exclude birds by some netting placed over the ventilators.

When the trees are to be planted in borders and trained to a trellis fixed about 12 inches from the glass, a lean-to house facing south, and about 12 feet wide, is best, or a three-quarter span-roof similarly situated. A span-roof is not good for early work, though it answers quite well where the fruit is required to be kept; but for the latter purpose nothing equals trees in pots, removed when the fruit is ripe to a north house. In the lean-to the front trellis, if the trees are grown on the back wall, must only extend two-thirds up the roof, the trellis curving so as to admit light to those on the

back wall. The border should be wholly inside, and not made all at once. A border about 9 to 12 inches wider than the roots extend when spread out, or 4 to 6 feet wide according to the size of the trees, is sufficient to commence with. It should be drained 1 foot deep with broken bricks or rubble, roughest at the bottom and finest on the top; 3 inches thickness of old mortar rubbish, with the finer particles sifted out, and pieces of lath removed, answers perfectly in preventing the soil mixing with the drainage. There must be a drain below all to carry off superfluous water.

Cherry trees thrive naturally in deep calcareous or silicious soil. It is difficult to tell whether the calcic or the silicic elements are most important as factors to the health and fruitfulness of the Cherry tree. The deep loam of Kent, where Cherries thrive, is simply an admixture of calcareous sandstone (Kentish rag) with rain-wash or brick-earth, now a deep loam. In West Hertfordshire and Buckingham the loams that give the Cherry trees their power to produce enormous crops are filled with calcareous and silicious gravels over chalk or silicious strata, and they never suffer from drought because the chalk gives out its moisture in dry periods. The soft sandy soils of Surrey and Middlesex, the dry and high Epping plain, and the Woburn sands of Beds, all let down the Cherry tree roots so that they draw moisture and lime, and iron from beneath the arid surface. Chalk soils, as a rule, eat up the May Duke race, and in too rich alluvial soils Cherry trees gum to death. Every county almost from Land's End to John O'Groat's contains the argillaceous soil which enables Cherries and other fruits to be grown successfully by competent men.

From 24 to 27 inches depth of soil is ample for a Cherry border. Good turfy yellow loam from an upland pasture, cut 3 inches thick and chopped up roughly, yet so as to lie compactly, answers very well without any admixture whatever, provided it contain stones or fragments of rock, which, when exposed to the weather, crumble into chalk and flints. If purely argillaceous, but not very clayey, as the top soil seldom is, take four parts of the loam and add to it one part (a fifth) of mortar rubbish from an old building, avoiding that from papered walls, and one part (a sixth) of sharp road scrapings, thoroughly incorporating. The border being firm and a few inches higher than the intended level to allow for settling, plant as soon as the leaves show indications of falling, spreading the roots carefully, firming the soil well about them, and give a good watering. The lights being moveable, as they ought to be where forcing is practised, take them off and mulch the surface with a little short spent stable litter. Trees that have been trained to walls three or four years and moved annually, so as to move safely, are the most suitable, as they will be in a fruitful state and calculated to afford some fruit the first season. Three of the best varieties for forcing are Early Rivers, Black Tartarian, and Governor Wood. If a "light" Cherry is wanted to form a companion dish to Early Rivers, Early Red Guigne or Belle d'Orleans may be selected; and if there is a desire for the May Duke flavour Empress Eugénie supplies it soon after Early Rivers. For following on, but preferably in another house, Bigarreau Noir de Gueben and Elton will satisfy every requirement; and for a late supply Tradescant's Heart or Large Black Bigarreau, and Emperor Francis are approved by three large growers of Cherries under glass.

Cherries are readily forced in pots, but a simple and excellent way to grow them is as single cordons, trained to a trellis 9 inches from the glass in a lean-to wall case, 6 feet wide and facing south, planting the Duke race 18 inches and the Heart and Bigarreau 2 feet apart. Top lights, 2 feet wide, should open half their width, also the front roof lights; but these must be moveable. The trees may be planted in the front, and the back wall clothed with Tea Roses. Two rows of 3-inch hot-water pipes, fixed 2 feet from the front, will furnish sufficient heat for ripening Cherries in April and May.

Trees should now be procured. If in pots, give them a larger size if they require it, disentangling the roots at the sides with a tine of an old fork, clear away the drainage and loose surface soil, and cut back any straggling or thick roots. Provide good drainage, use some rough compost over it, and ram the new soil as firmly as the old. Trees in pots as large as desired need only have the drainage rectified and be surface dressed, or the old drainage may be removed—cut clean off a few inches from the base, placing in fresh drainage and soil so that the base rests hard upon it, removing the loose surface soil and supplying rich material. For potting add a fourth of decayed manure to the loam, that is, 3 bushels of loam, 1 bushel of decayed manure, a 10-inch potful of half-inch bones crushed, and a similar quantity of charcoal about as large as a Filbert, a quart of Thomas's phosphate powder, and 2 quarts of wood ashes, mixing all well together. If the trees are not in pots the best shaped and cleanest growing pyramids or bushes should be lifted. Large trees can be treated in that way if they have been prepared by annual lifting, and they will fruit at once; but, as a rule, sturdy young trees with clear bark and well furnished with branches are the best, such as may after trimming in the roots a little, be placed in 10-inch pots. Allow them to grow a year and become well established before forcing them. Stand the pots on a base impervious to worms, yet such as will allow the water to pass away freely, the situation being sunny, surrounding the pots with ashes to the rim, and place some protective material over them in severe weather. Afford a good watering after potting or interfering with the roots of trees. None of the trees need be placed under glass before the time arrives for starting them, as they never suffer from frost unless the wood is sappy and unripe, and such trees are best burned, for gum is sure to claim them, and gummed trees are worse than none.—G. A.

HARDY FLOWER NOTES.

CROCUSES IN NOVEMBER.

THERE is something pathetic in the fate of some of the hardy flowers which in November seek to light up our borders and rockeries. This dull month is truly, as the poet says, "that sad season,"

"When woolly mists the chillier landscape wrap,
And beggared Autumn, with a silent tear,
Empties her gold leaves into Winter's lap."

And in this November of 1892 some flowers which should have bloomed earlier have lingered long, and now seem to mourn the cold and cheerless season. Here (in Kirkcudbrightshire) at least everything is later than has been the case for many years, with some curious exceptions.

Claiming our attention first of all are the Crocuses. Few people can realise that our gardens might in the dull seasons of the year be made brighter by the possession of some of these autumn species, now becoming more numerous as a demand has arisen for them. We cannot expect to have them as plentiful as the spring flowering species, nor can we expect them to glow with the brightness of these. Our autumns are all too dull and sunless for this. These flowers open delightfully to the sun, and they close quickly when the cheering rays are withdrawn or clouded over. They are too short a time with us now, and the glory of the flower is hardly revealed to us ere it closes again, and in lieu of the expanded cup presents a cone or cylinder of colour. And yet there is a compensation for the short period of fullest beauty in each day, for if protected from the furious winds and the falling rain, the Crocus will last longer in cloudy weather than when the sun has fuller and longer power.

First in the procession of autumn Crocuses (for the plural *Croci*, although grammatically correct, will not hold its own in popular phraseology) comes the bright and beautiful *C. speciosus*, which has never pleased me so well as this season, as it has been in flower for such a length of time. A good many of my corms are seedlings from a packet of purchased seed, and whether these have varied in time of flowering, as seedlings may do, or whether it has been the season, I cannot tell, but I have had a constant succession of flowers for a much longer time than usual. Few there are to equal, and, I think, none to surpass, this "blue" Crocus, with its

exquisitely veined and feathered blue-purple flowers and fine rich orange-coloured stigmas. I do not think Bieberstein, to whom the specific name is due, has been happy in his choice. *Speciosus* or "showy" seems rather inappropriate to such a delicately beautiful flower, although as a term of comparison with the other autumn flowering species it is quite applicable. Dean Herbert described three varieties and the "Cottage Gardeners' Dictionary" named four—viz., the type *C. s. caucasicus*, *C. s. laxior*, and *C. s. transylvanicus*. I have some bulbs under the latter name, and it seems of a dwarfer and more free-flowering habit and to produce flowers of rather better form. I bought this as having a darker flower than the typical species, but can see little difference. I have never managed to seed any of the autumnal Crocuses, so have been unable to see what variation there might be; but there is some slight difference of habit among the seedlings from purchased seed. *C. speciosus* is a native of the Caucasus and Transylvania and of the east of Europe. The date of its introduction does not appear in the ordinary books of reference. Figures and descriptions of three varieties are given in the "Botanical Magazine," vol. lxvii., and a good illustration of the type is given in Wooster's "Alpine Plants," first series, plate 25.

Less beautiful, but withal very pretty too, is *C. nudiflorus*, with its reddish purple flowers and deeply cut orange coloured stigmas. The leaves are not produced until spring, and are slender, appearing very early in the season. The Naked-flowered Crocus, as this species is commonly called, is a native of south-west Europe, but has been naturalised in various localities of central England. It is said to be particularly plentiful around Nottingham. Very pretty at present is *C. Clusi*, *Clusius' Crocus*, which does not seem to be common. It is very beautiful, with its good sized bright purple flowers becoming almost black towards the base. Like several others it flowers without the leaves, which are just beginning to appear. This species is a native of Portugal, and was introduced in 1835. It is also found under the name of *Clusianus*, which is probably more correct than the name under which I have it. Another species at present in flower is *C. longiflorus*, known also as *odorus*, which has pretty soft rose-lilac flowers, and was introduced from Naples in 1830. There is another *C. longiflorus*, flowering in spring. A pretty species with purple-lilac flowers, which is just coming into flower, is *C. asturicus*. This is a native of Asturia, and was introduced in 1842. One of my especial favourites is *C. zonatus*, which I always consider one of the most beautiful of all, with its pretty rose-lilac flowers, each having a charming orange coloured zone at the base. This is one which should be secured and increased as much as possible. No record of this Crocus appears in Paxton's "Botanical Dictionary," the "Cottage Gardeners' Dictionary," nor Nicholson's "Dictionary of Gardening," and I regret that I am not so fortunate as to possess Mr. Maw's Monograph.

I have several other lilac or purple autumn flowering species; but these by no means exhaust the list of those in my garden, and the length of my notes remind me that I have left but little space for some of the most charming and least plentiful of all. There are some beautiful white or whitish coloured species now in flower or coming into bloom which would require the pen of a Ruskin or a Jefferies to do justice to their chaste and delicate beauty. These tiny cups, in most cases surrounded by a fringe of narrow leaves, well reward a little care to prevent them being despoiled by the season's inclemency. Among the most charming of all of these is *C. Boryi* or *Boryanus* of Gay, and which has a popular name too long for such a pretty plant—*M. Bory de St. Vincent's Crocus*. This is a little gem, growing from 3 to 4 inches in height, with creamy white flowers with a yellow throat, and the base of the segments marked on the outside with purple lines, the leaves being produced shortly before the flowers. The anthers are white and the stigmas orange scarlet. It is figured in the "Botanical Register" for 1847, and also in Wooster's "Alpine Plants." The illustration in the latter shows much brighter purple on the outer segments than in any I have seen, and this purple marking is also carried further up the flower. The illustration also fails to show the milk-white anthers. *C. Boryanus* is a native of the Morea and the Greek Islands, and was introduced about 1844. Very beautiful is the almost pure white *C. hadriaticus*, which is, with me, rather later than *C. Boryanus*, and has not yet fully opened. It seems a little more tender than some of the other autumn species. Its native habitat is indicated by the specific name. The leaves of *C. hadriaticus* appear shortly before the flowers.

A very pretty species which I have lost, but must replace at the first opportunity, is *C. ochroleucus*, with creamy-white flowers with an orange coloured base. It is a native of the Anti-libanus and was introduced in 1862. *C. cancellatus* is just coming into flower here also, and is a very desirable little Crocus with fine white flowers with a purple base. One of the finest of the white or whitish species is, however, *C. hyemalis*, which is now in flower

here from established bulbs. It is larger than the other white species here and has longer flowers of good substance and colour. The outer segments are prettily streaked with deep purple, and the beauty of the flower when open is greatly enhanced by its black anthers, and the fine wire-like, deep coloured stigmas. The leaves appear before the flowers. I regret that I have no record of this species, and it is unfortunate that we seem to have no full synopsis of the genus with the exception of Mr. Maw's Monograph, which is so expensive as to place it beyond the reach of the majority.

Several other species and varieties of various colours would claim notice, but I must conclude with an allusion to the yellow autumn-flowering species. A good hardy yellow autumn Crocus is much to be desired, as it would be a welcome contrast to the other varieties and to the Colchicums, which have the drawback of being deficient in range of colouring. We have, it is true, the yellow *C. Scharojani*, introduced from the Caucasus in 1869. I have this Crocus, which is only in bud at present. Besides its first cost, which is still rather considerable, it is to be feared that it is an unsatisfactory grower and flowerer. This is the general report, and I cannot controvert it, as I have had mine too short a time to venture an opinion of my own. I observe, however, that Herr Max Leichtlin of Baden-Baden has a new yellow autumn Crocus, which he says is a much better one than *C. Scharojani*. If so, it will be worth its weight in gold, not only metaphorically but literally, for these new Croci, such as *C. Aitchisoni*, are introduced at high prices as the supply is at first limited.

I have before now called attention to these autumn Crocuses, and do so again, feeling assured that they are of the utmost value in the hardy flower garden. They have a greater range of colour, are more refined in their appearance, and are more attractive than the Colchicums or Meadow Saffrons, and should find a place in every rockery or border of hardy flowers. Given a place and sheltered from storms of wind and rain by handlights or cloches they will give much real pleasure to the growers.—S. ARNOTT.

NOTES FROM WORCESTERSHIRE.

FRUIT DRYING.

I AM always pleased to read anything in reference to fruit preservation in the *Journal of Horticulture*, and hope it will be kept to the front, as it is sure to be a great feature before many years have passed. I suggested it as a subject for the technical education grant, but it has not been carried out. Great loss is sustained by not having a proper market in country places to dispose of surplus fruit. It is hard to see fine fruit, even Green Gage Plums from wall trees, rotting for want of a near market. It is over thirty years since I saw the dried Apples being sold in Canada at most grocers' shops, so that we are altogether behind America in taking up this evaporating process, which must come to the front ere long.

THE WINTER MOTH.

These made their first appearance with me on October 30th, the males a few nights before the females. They may now be seen in pairs on the trunks of trees by the aid of a lantern. There is a point in their life history that I have hitherto been unable to prove to my satisfaction—viz., their flying in pairs, and thus escaping the grease bands. For three or four seasons I have watched for this generally accepted idea, and although I have tried my utmost I cannot prove it by noticing thousands of pairs at rest. On being disturbed at this stage they invariably fall to the ground; but in no case does a male fall if alone, provided the wings are properly developed, which is not always the case.

I have also examined, as far as sight is capable, thousands of males on the wing in the dusk and after dark, without being able to find a female being carried in flight. I am not prejudiced against the idea, but cannot prove it. There appears to be a slight increase of moths compared with last winter.

BULLFINCHES.

It would be interesting, if it could be ascertained on reliable authority, to know whether we get a quantity of these birds some seasons by migration from the Continent. Last year was an exceptionally scarce year, and no damage worth mention was done to my fruit buds in spring. This autumn there appears to be an unusual number come from somewhere. Last week about a dozen were taken in trap cages in my garden. A gentleman well known throughout Worcestershire writes me:—"We have suffered much from bullfinches here, and are likely to suffer more if we do not take action, for they are very plentiful this year."

For the next six weeks these birds are as easily caught as robins.

I have so often, in the *Journal*, advocated catching, instead of shooting the birds and damaging fruit trees, that it is scarcely worth repeating and giving instructions; but there are always some fresh readers, which must be my excuse for referring to this matter this season.—J. HAM.

A NEW SILVER-LEAVED ELDER.

VARIEGATED foliaged shrubs form a striking feature in pleasure grounds when judiciously planted, but to insure the best results discretion must be brought to bear upon their use. Still, they afford relief to the sombre appearance of evergreens during the summer months, and none more so than the golden and silver-leaved Elders. Among the latter that shown in the accompanying illustration (fig. 63) will perhaps take a leading place. This was exhibited at a meeting of



FIG. 63.—A NEW SILVER-LEAVED ELDER.

the Royal Horticultural Society on September 20th of this year by Mr. E. Gibbs, gardener to Miss Alice de Rothschild, Eythrope, Aylesbury, and was accorded an award of merit. The leaves are comparatively small, those matured spotted with green, the young foliage being almost white. It is said to be a sport, and judging from the shoots shown at the meeting alluded to a well grown bush would form a pleasing contrast to dark-leaved or evergreen shrubs.

TOMATOES AND MUSHROOMS.

WE have close on 40,000 square feet of glass devoted to Tomatoes, and by adopting the advice frequently given in the *Journal*—viz., giving fresh air with a dry warm atmosphere, we have no disease worth mentioning, and not a single white fly is to be seen. We have had particularly good crops from soil that has previously grown two and three crops of Tomatoes. Our soil, though rather poor and shallow, is of good quality. Too many still attempt to grow Tomatoes in rich and loose soil, digging in quantities of farmyard manure. This we never do, and we use it only as a mulch on the border. We fork in, and give several times throughout

the season, good dressings of Thomson's manure. By this treatment we get strong leathery leaves that withstand disease, and if the spot does attack the foliage it does no injury to the fruit. Last year we had one house, 150 feet long, planted with Ham Green Favourite. Owing to faulty ventilation, and a few excessively hot days in June, the spot started on the leaves, and rapidly spread until every leaf was affected. We used no dressing of any kind, but paid strict attention to airing and watering. Though the leaves were spotted very badly to the last, it was the best house we had, gave nearly 1½ ton, cropped for six months, and fruit all sound. The varieties we like best are Eclipse, a new kind sent by Austin & McAslan, Glasgow, a few years ago; Sutton's Perfection, Ham Green, and Conference. It is difficult to say which is best, as when well grown all are heavy croppers and smooth skinned. We have one plant which has borne an enormous crop of fine fruit. It was planted for Conference, but is so distinct that we think it must be a sport or self-crossed kind. A piece of stem cut off the top of the plant 18 inches in length carried fifteen finely shaped fruits weighing 3 lbs. The plant was 6 feet high, and was bearing for four months. As for quality, we have only to mention that they bring 11d. per lb. in market, and have never throughout the past season realised less than 6d.

MUSHROOMS.

I intended writing you before now to tell you of the wonderful Mushrooms we have been gathering since August from a small border planted with Tomatoes, and strange though it may seem, we attribute the size and quality of the Mushrooms to the liberal use of the manure above mentioned. We were led to use this fertiliser as an agent in Mushroom growing by a letter we received some years ago from Mr. Murray, the able gardener at Culzean Castle, Ayrshire. He had an exhausted bed upon which he spread a good coating of this manure, watering it in. In a short time he was surprised to see the finest crop of Mushrooms he ever had; so thick were they growing, he said, that he could fill a big basket without moving a foot. We took out two trenches about 1 foot deep and 1 foot broad in spring, spread in it a small quantity of old Mushroom bed, planted the Tomatoes in rows in the usual way, giving round each plant a good dressing of the fertiliser. The result has been good crops of Tomatoes and as fine Mushrooms as ever were grown. They came up in great colonies round the stakes supporting the Tomato plants: and acting upon the advice given in Wright's "Mushrooms for the Million," of pulling them out by the roots, not cutting them off, we have had a succession of crops since August, and not exhausted yet. We watered in several dressings of the manure, which benefited the Tomatoes as well as the Mushrooms, and have given us a very profitable little border, indeed; we are getting 2s. per lb. for the latter, and some time ago had higher prices. We have gathered many Mushrooms 12 and 13 ozs., very fleshy, and a beautiful snow white colour, so much so that many visitors could scarcely believe them to be Mushrooms at all.—D. BUCHANAN.

ADIANTUM FARLEYENSE.

THINKING a few notes respecting the above beautiful Adiantum might be of interest to your correspondent Mr. C. Russell and others, I have taken the opportunity to give my method of cultivation, which is attended with every success. I grow eighteen plants ranging from about 4 feet in diameter down to 18 inches. The larger plants were only placed in the pots they now occupy about two years ago. These pots are from 13 to 15 inches in diameter. The smaller plants are mostly in 6 and 7-inch pots, and these sizes suit my requirements best. I have never until recently tried to what size they can be grown. That is the object for which I have repotted several of them, and at the present time they are thriving admirably.

I am of the opinion that this Adiantum succeeds best in yellow loam and leaf mould with plenty of opening material in the compost such as burnt marl pounded fairly small, or charcoal and silver sand. The drainage must be perfect or failure will be sure to follow. The plants alluded to are grown on a side slate stage covered with white spar at the end of the plant stove, with plenty of atmospheric moisture, but they are never syringed. This practice I disapprove of, as the dense habit of the plant causes the pinnæ of the fronds to damp when so treated, which badly disfigures them. They are never overwatered, and in the winter months the moisture is reduced both in the soil and in the atmosphere. The fronds with us assume the most beautiful tints. This I think must be due to the compost, or perhaps with growing them in a very light span-roofed house. Probably both play a part in it, for I do not think they care about much shade, providing they do not get the direct rays of the sun. I have never seen this Fern do well in

peat, and in poor soils it is always seen devoid of that beautiful tinge of colour in the fronds which is so much admired.

Having a number of plants in 8 and 9-inch pots which were getting impoverished, I split them up into sizes convenient to go into 6-inch pots a year ago last spring. They were placed in the above compost. For weeks they hardly grew at all, but at last they began to move more vigorously, and at the present time they are 18 inches in diameter and in a healthy condition. I may add we use liquid manure moderately in the summer months, but chiefly to plants that are root-bound.

What size this Fern can be grown to I cannot say, but Mr. Cromwell, now of Cleveley, Allerton, near Liverpool, once told me that he grew a specimen 7 feet in diameter in a compost of the above description, and exhibited the same at one of the Liverpool summer shows, but he said he had never reached that standard since. The general opinion is, I believe, that *A. farleyense* will grow to a certain size and then begin to decline.—J. J. C.

YOUR correspondent, Mr. C. Russell, on page 456 of last week's *Journal*, wishes to hear from those who are successful in growing this beautiful Fern. May I relate my experience with it? I had a few plants in 6-inch pots, which were used for table decoration from time to time, until they became root-bound. I placed them in 9-inch pots, and after a time transferred one to a 12-inch pot. Last year this plant measured 5 feet in diameter, when I gave it a shift to a 15-inch pot, and now it measures 5 feet 6 inches, and is growing fast. The plants are grown in a stove with other things which are syringed. I formerly used peat and sand for potting, but I find this Fern does much better potted in three parts fibrous loam to one of leaf soil with a sprinkling of coarse sand. I give them plenty of water in summer and a little weak liquid manure occasionally. I never allow them to become dry in winter, as they are always growing. Last spring I cut out all the old fronds from the largest plant.—CHARLES PAYNE, *Gardener, Trashurst, Dorking.*

PRICES OF APPLES—SALESMEN.

I NOTICE on page 302 (October 6th) a statement about the price of Domino Apples and value per tree. As an example of the uncertainties of fruit growing and the impossibility of counting one's chickens beforehand, I may say that, on looking over my returns, I find that the average price of this sort was about 2s. 9d. per bushel to the grower, instead of 6s., as reckoned by your correspondent, and that some which were sent to Covent Garden made there only 2s. per bushel, which is less than 1s. per bushel home after deducting rail, commission, return of empties, and cartage. At the time Domino made about 1s. home larger sorts made 2s. per bushel home for selected fruit. It is true that some of the others made sometimes during the season 6s. per bushel in Covent Garden, or about 4s. 9d. home, but this was very exceptional, and not the rule. The prices I obtained were better than that of my neighbour, and it will be seen from the above that the present is not a very favourable time for Apple growing for market, nor can the best acre be taken as an average. A grower here would have made about £800 nett profit if all his ground had done as well as the best acre of Plums and Apples, but instead of this he has a loss of several hundred pounds on the whole of his fruit ground.

I have got somewhat behind in my reading of the *Journal* owing to pressure of work. Since writing the foregoing I have read your notes in reference to the middleman on "The Fruit Supply and Prospects" on page 343. I think with you that it is impossible to do without salesmen, and if they act justly and uprightly they are a great benefit to the grower. It is manifestly impossible for the grower to send his fruit direct to the fruiterers of a large town and collect the money. It may be done in a few instances, but not as a general rule. If a grower is to have the salesman's profits, he must also have the salesman's expenses and losses. He would of necessity require a stand and an agent to receive the money, and to know current prices, also to know to whom he can safely sell. As it is common now to send to many different markets, one would be required at each, while often it would not answer to send fruit to several markets. It would be found far more convenient to have a reliable salesman who is already in business there, and who knows his customers and their wants.

I consider it is the salesman's business to advise his senders not only when to send, but also when not to send, and to guide him as to quantity, &c. This is also for his own interest, for a few heavy losses which might have been avoided by the salesman's acquainting the grower with the state of the market, make him fight shy of that market. Then, too, as regards the retailer. These are also a necessity unless the consumer requires a large quantity of

fruit, the extra carriage which is consequent upon the delivery of small parcels, would make the price as high as if he bought of the retailer, and he naturally likes to see what he is buying.

There are many other reasons which might be urged, such as the difficulty of attending to small orders, when tons of fruit are being dispatched daily, the bulk, or at any rate the residue of which would have to be sent to market. It is much more satisfactory to send large quantities regularly to as few salesmen as possible. At the same time it seems very unjust to the grower when he is getting 1d. a pound for fruit, to grow which he has been toiling for a whole year, and from which all his expenses for the year have to be deducted, to see it being retailed at 4d. and 6d. per pound. These profits have been supposed to be necessary to the retailer to enable him to get a living, but as you pointed out competition compels the retailer now to reduce profits, and it will doubtless be found that the increased sale, because prices are lower, enables him by turning over a larger quantity of fruit to get as good a living as before, while the consumers are benefited.

In consequence of the low prices of fruit, growers are compelled to enlarge their holdings in order to get the same living that they used to do from a smaller extent of ground. In this as in grocery, clothing, and other trades, the tendency seems to be for the business to drift into the hands of large growers who have sufficient capital to plant large areas and wait till the trees come into bearing.

It is not likely that prices of fruit will be anything but low while the present agricultural depression exists, and as long as fruit shows a margin of profit, farmers in fruit-growing counties will plant largely every year, and it is natural that if they find a good variety they should plant many trees of it. It appears very evident to me that if fruit growing is to pay, it must be by planting the best sorts, and cultivating and marketing the fruit in the best possible manner.—WALTER KRUSE.

WINTER FLOWERING PLANTS.

WHERE winter-flowering plants are extensively and properly cultivated there should be no lack of flowers all through the dull period of the year, and so many and varied are the plants adapted for this purpose that something may be found to suit even the most fastidious persons. I will place those which need a stove temperature first, and follow on with others that require cooler treatment. I have known instances of complete failures by placing some plants in too high and others in too cold a temperature, therefore great care should be exercised in this respect.

The Poinsettia is a good representative of this class of plants; for although it will succeed in a cool temperature during the summer, the plants require placing in a higher temperature about the beginning of September, or the leaves will quickly commence falling, and the proper development of the bracts will be prevented. *Plumbago rosea* is one of the brightest decorative plants that can be found, and is admirably adapted for arranging amongst other stove plants or treated as a climber for the roof. I use it for both purposes, but I think by far the best effect is produced when grown as a climber, for its lovely scarlet flowers when allowed to hang gracefully down have a very pleasing effect. It is not a suitable plant for cutting purposes, as the flowers will not keep longer than a day or two. *Impatiens* are also most useful for winter decoration. I think *I. flaccida alba* is decidedly the best, as it produces its pure white flowers in great profusion. By giving it a warm temperature the footstalks are much longer, thereby adding considerably to its usefulness. I must not close this short list of stove plants without briefly referring to *Calanthe Veitchii* and *C. vestita*, for two more useful plants for winter flowering would, I think, be difficult to find.

Passing to the intermediate house we find the most beautiful of all—viz., *Euphorbia jacquiniæflora*. The general practice is to give this plant stove heat, but I think it succeeds much better when grown in an intermediate temperature. I grow my plants in the latter structure all through the season, and they are now showing for flower splendidly, and are well feathered with foliage right down to the pots. *Eranthemum pulchellum* is decidedly one of the best of the winter-flowering *Eranthemums*. It succeeds admirably when placed in cold frames during the summer months, being stronger when so treated than when grown in heat; but it should be removed to the intermediate house about the end of August. *Goldfussia anisophylla* will succeed under similar treatment to the *Eranthemums*, as also will the beautiful yellow flowering *Reinwardtia tetragyne* (more commonly known under the name of *Linum trigynum*). These are free flowering plants, and worthy of more extensive cultivation than they at present receive. Some *Begonias* are also most useful plants for winter furnishing, and the following will be found suitable where house

room is limited:—*Begonia nitida*, very handsome deep rose flowers; *B. nitida alba*, similar to *nitida*, only smaller, and of the purest white; *B. fuchsoides*, rich deep scarlet; *B. Knowsleyana*, silvery blush; *B. manicata* and *hydrocotyfolia*, the two last named being especially valuable, owing to their dwarf habit and freedom of flowering. They are also very useful for drawing-room decoration, continuing to flower profusely for a long time. I must not conclude this selection without mentioning the splendid rich magenta variety *John Heal*, for when well grown this is, I think, second to none. I have a few plants flowering here at the present time, producing a most bright and effective display.

Coming now to the greenhouse, one might safely class the *Salvias* as being the most important. These may be had in flower all through the winter and spring months. The following will be found the most useful for a general collection: *S. Pitcheri*, lovely azure blue colour; *S. splendens*, a very beautiful variety, producing its bright scarlet flowers in great profusion all through the winter; *S. rutilans*, with flowers of a rich magenta shade, very free. *S. Grahami* is particularly valuable on account of its very dwarf habit and freedom of flowering, and its bright purple flowers look very pretty intermixed with other plants. *S. leucantha* and *S. Betheli* are most valuable for supplying a little variety of colour, the former being a mauve, and the latter a bright pink; nor must *S. gesneræflora* be forgotten, for it is truly one of the best and latest of the whole family. Its flowers are of a bright scarlet colour, being very conspicuous and produced in abundance. Then we have the *Bouvardia*, which is one of the most popular of all the winter flowers. These, however, should have a place in the intermediate house or warm conservatory. Zonal *Pelargoniums* are useful, and the same may be said of *Mignonette*, of which I think *Miles' Spiral* and *Machet* by far the best for winter work. *Eupatoriums*, *Schizanthus*, and *Marguerites* are also serviceable plants. *Cinerarias*, *Primulas*, and *Chrysanthemums* are of course the general favourites at this season, and when well grown make a grand display for some time. Before I close I must say a few words respecting *Carnations*, for no collection of winter flowering plants can be complete without them. The varieties grown here are *Miss Jolliffe*, *Winter Cheer*, *Madame Carle*, *Jean Sisley*, *Oriflamme*, *Alegatière*, and *La Favorite*, all of which are excellent. The *Marguerite Carnations* are also useful, and should be given a trial in all gardens.—G. PARRANT.

NOTES FROM IRELAND.

THE winter Show of the Royal Horticultural Society, held on November 17th and 18th, probably exceeded in the number and quality of its exhibits any previous exhibition. A new departure was inaugurated by holding the Show in the vast hall of the Royal Dublin Society's premises at Ball's Bridge. This is where our world-famous horse shows are held annually. The size of the building somewhat dwarfed the Exhibition, but half a dozen of our leading nurserymen materially assisted with fine groups of Palms and foliage plants, both hardy and exotic. The premier prize for a group of *Chrysanthemums* grown in pots, staged on a space of 50 square feet, was taken by Mrs. Bewley of Willow Park for an effective group. Plants generally were of a high quality, as also were cut blooms. The premier prize in this section for thirty-six blooms, half Japanese and half incurved, went to Mrs. Vaughan of Roscrea for a stand in which the incurveds were of marked excellence. A feature of the Show was a stand of six blooms of *Vivian Morel* of great size, depth, and substance, shown by the same lady, and deservedly taking first in its class.

Mr. Cummins, steward to Viscount Gough, had a stand, not for competition, of agricultural roots, thirteen or fourteen varieties, and thirty-three distinct varieties of Potatoes, fine clean samples. This stand, though lacking the bright colours of the floral exhibits, commended itself to the public by its utility and excellence. The first day was genial and fine, and brought an exceedingly good attendance, including His Excellency the Lord Lieutenant. The second day was wet, and only enthusiasts braved the weather.

Within a stone's throw of the Royal Dublin Society's premises are the Botanic Gardens of Trinity College. A peep in at Mr. Burbidge is a treat. It is a long stretch from here, under the cool skies of Erin, to Borneo, "the Gardens of the Sun," the scene of his former labours in the interest of science. The extensive borders are full of treasures and their labels, so full one wonders how they can be weeded or cleaned, but the fact is weeds have no room, and as for digging, that is a mystery.

Trinity College has been holding high festival in the celebration of its tercentenary this year. Some of the glass houses look as if they were verging on a tercentenary too. One ancient building in

particular seems to be supported by the friendly fronds of magnificent Palms, excelsior-like, pressing the antique roof. More modern structures are filled with Orchids, and one long low house we peep into, to go in would be sacrilege, for fronds are meeting across the walk. How are they watered and attended to? Well, like the borders, that is another mystery. Nepenthes lead one to inquire for The Rajah, that carnivorous wonder which Mr. Burbidge loaded his Indians with on Kina Balu. But, alas! it is not, though Glasnevin possesses one.

Some gems of Crocus species are in flower outside, looking too fragile for a November day, whilst the earliest Narcissus braves the wintry winds. Memory recalls the privilege of seeing the great collection of Narcissi in flower five years since, and that was a red-letter day in the life of—E. K.

A SUB-TROPICAL BORDER.

A FINE-FOLIAGE or sub-tropical border forms a conspicuous feature in pleasure grounds, and always commands admiration providing suitable material and position are available. The position should if possible be sheltered from rough winds, which would break and disfigure the large and tender foliage of the plants used. A good situation for such a border is at the end of a sweep of lawn, or as a background of a design of flower beds, which serves as a foil to the brighter colours of the ordinary occupants of the beds. The soil should be rich and open; that will ensure the plants making vigorous growth and bring out their characteristics. Leaf mould, thoroughly decayed manure, burnt earth, sand, and old compost from the potting bench may be added if deficient in this respect.

The plants most suitable for the purpose are Palms (*Chamærops* and *Phoenix*), *Aralia*, *Ficus elastica*, *Acacias*, *Melanthus*, *Succulents*, *Grevilleas*, and *Musa Cavendishi*, if in a very sheltered position. Other plants, such as *Wigandias*, *Cannabis gigantea*, *Variegated Maize*, *Giant Tobaccos*, the fine-foliage *Solanums*, *Lavatera arborea*, *Ricinus Gibsoni*, and *Erythrolæna conspicua* are among the best to use. These may be raised from seed sown early in the spring and grown quickly and strongly in order to have them well hardened off when planting time arrives. *Acanthus latifolius*, *Chamæpeuce diacantha* and *Cassabonæ*, and a crown or two of the Globe Artichoke may be used with good effect. In planting, consideration should be given to the ultimate height and size of the various plants so as to obtain a graduated outline from back to front, but while avoiding undue crowding let each plant fill its allotted space.

A border arranged in the following order was much admired here during the past summer. Back row: *Cannabis* and *Sun-flowers*. These grew to 11 feet in height. Second row: *Tobaccos*, *Wigandia*, large *Acacias*, *Ricinus Gibsoni*, and *Ferdinandias*. Third row: *Cannabis*, *Variegated Maize*, *Melanthus major*, *Ficus elastica*, and a centre plant of *Musa*. Fourth: *Erythrolæna*, *Globe Artichoke*, and *Solanums*. Fifth: *Grevillea*, and smaller plants of *Acacia lophantha*, large plants of *Echeveria metallica*, *Perilla* in clumps, *Chamæpeuce diacantha* and *Cassabonæ*, with an edging off of *Centaurea candidissima* and *Iresine alternately*.—W. H. STEPHENS, *The Gardens, Prescott House*.

PEACHES ON OPEN WALLS.

I THINK maiden trees are the best if planted early in the autumn, and all the shoots required for a foundation simply nailed to the walls. I have seen the trees at some nurseries with all shoots cut clean out, not one left at the base to shelter the main stem. If the shoots were pinched to four leaves there would be some chance for the grower to cover the stem to the ground line, which I consider of great importance in the south. Sun-burnt trees must follow if there are no leaves on the main stem. If nurserymen clear all the growth, say, 2 feet from the base, there is nothing for us to do but to train back shoots to cover the leafless base. I have had maiden trees of *Alexander* carry two dozen fruit the second year after being planted, and the required space covered in four to five years. In most cases it takes that number of years before these cut-back trees are able to leave the nursery.

I have tried *Alexander*, *Waterloo*, and *Amsden June*; all ripen about the same time, and I see no difference in them. If anything, *Amsden June* affords the best fruit, and does not lose any buds; moreover, it stands the frost better than the others. *Hale's Early* is a grand Peach. *Crimson Galande* is a fine midseason variety, whereas *Sea Eagle* is woolly looking and coarse. *Princess of Wales* always does well, as also does *Thames Bank*, both ripening about the same time. Mr. Gladstone ripened in September, the fruit being very large, fair flavour, but has a woolly surface that I do not admire. *Golden Eagle* should be grown in preference to *Salwey*, for it is always good flavoured, and it has a future as a late Peach. With the exception of *Pitmaston Orange*, *Nectarines* are not satisfactory here.—H. GALTON, *Shawford, near Winchester*.



DATES OF SHOWS FOR 1893.

IN the past many smart things have been done by the Birmingham and Kingston Chrysanthemum Societies, but none which redounds to their credit more than the fixing of the dates of their exhibitions for the coming year. The latter have chosen Tuesday and Wednesday, November 7th and 8th, while Wednesday and Thursday, November 15th and 16th, are the dates selected by the Midland Society. Such an early date to announce their fixtures is a commendable action, as opportunities are given for other societies to make their arrangements with a view to avoiding a clashing of dates. Not only is this early date fixing good for the Society itself, but it is equally so for intending competitors who know exactly now how to shape their course. Where societies, like the two in question, have not to depend upon circumstances with regard to knowing how their balance at the bank is likely to guide the arrangement of their schedules for the coming year, there seems to be no reason why the schedules of prizes should not very shortly be issued. This would relieve competitors very much of the anxiety of knowing whether they are likely to have too few or too many varieties in any section. When the issue of an important schedule is deferred until say April, it is then too late to make any great alterations in the stock of plants. I have known exhibitors blamed for not filling particular classes better than they did, but the reason lay with the executive rather than the growers. I hope very shortly to hear that the dates of the N.C.S. are fixed, and that the schedule of prizes is being prepared.—E. MOLYNEUX.

THE NATIONAL CHRYSANTHEMUM SOCIETY.

I HAVE never yet known a horticultural society, and more especially a special society, whose head quarters are in London, that did not, or does not, at some time or other, have directed against it such a sarcasm as being a "London clique." The reason is not far to seek. It is in the nature of things that any society of the kind established in London will be governed mainly by London men. London is the great centre of floricultural enterprise, and the most earnest enthusiasts are found there. But I know of no special society (and I am connected in some way or the other with many of them) against which the charge of "London cliquism" can be more unjustly brought than the National Chrysanthemum Society. If Mr. Chas. E. Pearson will take the trouble to inquire a little more closely into the methods of this Society he will find it offers the greatest facilities for the principal provincial centres being in touch with it. We have in affiliation with the National Chrysanthemum Society some eighty-five provincial societies, representing many of the leading Chrysanthemum growing districts. Every one of these affiliated societies has the privilege of nominating a representative on the General Committee, who is invited to all its meetings, and who has as much influence in determining the policy of the Society as an elected member; a considerable number of these representatives attend the meetings, and act cordially with the elected members.

There are thirty-six elected members in addition to the officers making in all forty-two, and if it be true there be safety in numbers it is amply secured. I have now been a member of the Committee for some eight years, and I witness plenty of independence of speech and act, but nothing which can be designated "cliquism." I can truly say that the elected Committee represent all interests, large and small, in relation to Chrysanthemum culture. How much the services of a provincial grower of repute are welcomed was seen in the position on the poll occupied by Mr. W. Herbert Fowler of Taunton, at the last election. As the Nottingham and Notts Chrysanthemum Association is in affiliation with the National Chrysanthemum Society, let Mr. Pearson get himself appointed as its representative on our Committee, and come among us and become acquainted more fully with our procedure, and I am quite certain that with wider knowledge there will inevitably follow a more enlightened and juster conception of the methods of the National Chrysanthemum Society.—RICHARD DEAN, *Secretary*.

THE WAKEFIELD PAXTON SOCIETY'S CHRYSANTHEMUM SHOW.

THERE was a very large gathering at the Paxton Society's meeting on November 20th, and the proceedings were of a most interesting character. Mr. J. G. Brown presided, and Mr. B. Whiteley was in the vice-chair. The subject for the evening's discussion was "The Chrysanthemum," and there was a large and magnificent display of exceptionally well grown blooms. The flowers had been sent by various professional and amateur gardeners, and they were well staged by Mr. W. Blackburn, who was recently appointed Curator to the Society in the place of the late Mr. Arthur Lupton. It was generally admitted that the largest and best collection on view was a stand of thirty-six exceedingly fine, large, and well-formed flowers of various tints, and of the Japanese, incurved, and reflexed varieties from Miss Edith G. Mackie's grounds at St. John's, where there is at present an extensive and most attractive collection of the best varieties. Considering the very unfavourable season the flowers were marvellous productions, and Mr. Garnett was warmly complimented on the success which had attended his efforts. A discussion on the subject of Chrysanthemum growing took place, which

was continued until a late hour, and great interest was evinced in the proceedings. Miss Mackie's Chrysanthemums have been open to the inspection of the public, and the privilege so kindly accorded has been highly appreciated.

AYRSHIRE CHRYSANTHEMUM SHOW.

WE understand that a proposal has been made to provide a silver cup for competition at the Chrysanthemum Show of the Ayrshire Horticultural Society next year. This is to encourage the cultivation of Chrysanthemums in that district.

SPORT FROM MRS. H. CANNELL.

I AM sending you by this post a bloom of Chrysanthemum, a yellow sport from Mrs. H. Cannell. Kindly inform me if it is new. It has all the properties of Mrs. H. Cannell, and is a late bloomer, which is a great advantage.—W. E. TIDY.

[Your primrose sport from Mrs. H. Cannell is certainly worth growing well. The colour is very pleasing, and the florets broad and smooth. We have seen very similar blooms of Miss Kate Mursell, a sport from Lady Lawrence.]

CHRYSANTHEMUM RICHARD PARKER.

I HAVE not seen this variety exhibited anywhere this autumn, nor have I noticed any account of it being shown, not even before the Floral Committee of the N.C.S. Richard Parker was sent out last spring at the high price of 10s. 6d. each plant, with a glowing description; but with me I cannot see any difference between that variety and Miss M. A. Haggas. Have any of your readers seen good blooms of it?—G. F.

[We have reason to believe that many Chrysanthemum growers do not consider Richard Parker and Miss M. A. Haggas sufficiently distinct.]

QUEEN SPORT.

I HAVE sent for your inspection three flowers of Chrysanthemums cut from one plant. Will you kindly say if No. 2 is worth keeping, as it seems to me to be distinct from Queen of England and Empress of India? No. 3 can only be a curious freak, and the peculiarity would presumably not be perpetuated. No. 1 is from the original.—WM. GRIX.

[No. 1 is the true Queen. No. 2 is a larger, a very delicate flesh-tinted bloom with narrow florets, distinct, but of doubtful value; still, it might be fixed with the view to testing its character. No. 3 is half Empress of India, pure and good; the other half not Queen of England, but Alfred Salter in its best colour. Four varieties were, therefore, presented by this sportive plant and all distinct. 1, The Queen (original); 2, the tinted sport; 3, Empress of India; 4, Alfred Salter; both varieties clearly defined from the same receptacle. It may be added that Alfred Salter was a sport from the Queen of England.]

EDINBURGH CHRYSANTHEMUM SHOW.

THE magnificent silver cup, presented by the magistrates and Council of the city to the Scottish Horticultural Association for competition at the Chrysanthemum Show recently held in the Waverley Market, and won by Mr. R. Parker, gardener to Mr. J. Corbett, M.P., Impney Hall, Droitwich, Worcester, is circular in form, with two massive handles. The body is fluted, and in the front and back there are shields bearing respectively the arms of the Association and the following inscription:—"Presented by the Magistrates and Council of the City of Edinburgh to the Scottish Horticultural Association. The Right Honourable James Alexander Russell, Lord Provost.—November 1892." The cup was specially designed and manufactured by Messrs. Brook & Son, goldsmiths to the Queen, 87, George Street, Edinburgh.

PREMIER BLOOMS.

THESE are always objects of special interest at Chrysanthemum shows, and wherever selected are considered as highly honoured by the possessors. In some shows these classes have fallen into disuse, notably as I learn for the reason that it is found the awards invariably go to exhibitors of the prize collections. That is, of course, natural. At one large suburban show an effort has been made to revive the premier bloom class, and, to give every exhibitor a chance, it is proposed that, beyond the flowers in the respective cut bloom classes, it be open for anyone to stage a single bloom for the premier competition. It is proposed to have flowers on plants, as it is difficult for judges to compare these with other blooms. It may be that some growers who have not enough good flowers to compete in an ordinary class yet can show one bloom of exceptional merits.—D.

ENGLISH-GROWN BLOOMS FOR NEW ZEALAND.

To reciprocate the services of Mr. J. Earland, Wellington, who sent Chrysanthemum blooms frozen in ice for exhibition in this country early in the autumn, the National Chrysanthemum Society have, through Mr. R. Ballantine, made arrangements for sending some English-grown flowers to New Zealand. Twelve of the best Japanese blooms were selected from the forty-eight, which secured Mr. W. Herbert Fowler, Taunton, the first prize at the recent Royal Aquarium Exhibition, and a similar number of incurved flowers from Mr. W. Mease, gardener to A. Tate, Esq., Downside, Leatherhead, and shown at Kingston. These were, under the guidance of Mr. Kaye, the manager of the Blackfriars Cold Storage Works, placed with the cups and tubes in zinc vessels (one bloom in each), 15 inches in depth and wide enough to admit of 3 inches of water being around the blooms. They were then frozen, which process occupied four days, and the vessels were packed in sawdust in strong wooden cases, which are being despatched

to the Antipodes. It is expected that the blooms will reach New Zealand in time to be exhibited at the Wellington Chrysanthemum Society's Show in April.

FROZEN BLOOMS TO NEW ZEALAND.

WHAT the Committee of the National Chrysanthemum Society are just now doing in sending out frozen Chrysanthemum blooms to New Zealand, shows what it is possible for private traders to do if they wish in Dahlias, Roses, Gladioli, Begonias, and many similar flowers. Who can tell what possibilities of future trade may not be found in this method of sending sample flowers immense distances? The N.C.S. Committee have been very fortunate in sending a batch of first-class blooms. The Mayor of Taunton, Mr. Fowler, had had the best, though not the biggest, Japanese this year, and Mr. Mease of Downside had had some of the best incurved flowers grown. It would be specially interesting to be with our antipodal friends when they see these examples.—D.

CHRYSANTHEMUM HOUSE IN FINSBURY PARK.

WE are informed that the Parks Committee of the London County Council have considered it desirable to erect a structure as a show house for Chrysanthemums in Finsbury Park. It is stated that £1000 will be spent on the building. Similar houses should be erected in many of the other parks where Chrysanthemums are grown.

VISITORS AT BATTERSEA PARK.

DURING the annual Show of Chrysanthemums at this park, which closed on November 26th, the number of visitors reached the enormous total of slightly over 39,900, the greatest number in one day being 5890. These figures show an increase over last year's total of 11,500, which is most creditable to Mr. Coppin, who provided a magnificent display. Unfortunately the structure is totally inadequate, and it would be a highly appreciated boon to thousands if the London County Council could provide better accommodation.

CHRYSANTHEMUMS IN THE LONDON PARKS.

THERE is a rumour afloat that the London County Council intend to organise a competition for the most effective exhibition of Chrysanthemums amongst the superintendents of the parks. It will be pertinent to ask how a fair competition can be carried out, since the conveniences at the command of the different men vary so greatly. If allowances are to be made on this account who is to make them? It would need very able judges to award the palm, and their task would be an invidious one. Then, again, what good purpose would be served by such a contest? It may be replied that the plants would be better grown and the collections more attractive to the general public, but no great improvement would be made in the existing displays unless (1) more assistance were provided, or (2) other work neglected. The various superintendents do not require any such stimulus in catering for the public.—VISITOR.

[Surely it would not be inappropriate to confer on these capable men some mark of recognition for their services.]

CHRYSANTHEMUMS AT MOOR PARK.

MR. HAGGART, who has been head gardener at Moor Park, Ludlow, for nearly twelve years, commenced growing Chrysanthemums soon after he took charge of the gardens. He has now one of the choicest collections possible to see in the neighbourhood. Not only are large blooms for show purposes produced, but bush plants are also grown in quantity. Mr. Haggart is well known for his successes with Chrysanthemums at past Birmingham Shows, but this year he has not exhibited, having been obliged to make his best display by November 1st.

About 600 plants are grown. Amongst new varieties in a Peach case I recently noticed well-coloured flowers of Alberic Lunden, R. J. Kingston, Violet Rose, May Tomlin, W. Tricker, Richard Parker, Mrs. Robinson King, Madame Darrier, Camille Flamarion, Mr. E. Beckett, Vice-President Audiguier, Mdlle. M. Hoste, and Mrs. Irving Clarke. The incurved varieties were also good, the Queen, Princess, and Teck families being especially fine. Mr. Haggart keeps each class separate, which makes a visit interesting, instructive, and useful. The best display was in the conservatory in the form of a triangular bank. The plants were 2½ to 8 feet in height, and the whole of the blooms were of good colour, size, and substance. Amongst Japanese, Etoile de Lyon, Stanstead White, Marsa, Kioto, Thunberg, Sunflower, Madame Baco, Avalanche, Golden Dragon, Meg Merrilies, and others were all well represented. Louis Boehmer and Mrs. Alpheus Hardy had excellent flowers.—JOHN CHINNERY.

CHRYSANTHEMUMS AT THE OLDFIELD NURSERIES.

A VISIT to the Oldfield nurseries of Messrs. Clibran & Son, Altrincham, is always interesting, and at no time of the year more so than in the Chrysanthemum season. A recent visit fully convinced me that they do all they possibly can to keep pace with the times, and succeed in doing so. The main show house is a large span-roofed structure 210 feet long by 30 feet wide, in three divisions; some 3000 plants were arranged in sloping banks, the path being in the centre. All the best varieties obtainable were represented. I took down the names of some varieties which ought to prove decided acquisitions.

In the ostrich plume varieties *Enfant des Deux Mondes* and *William Falconer* were very fine, the former of vigorous habit, flowers large and freely produced, opening clear yellow passing to pearly white, with base of florets shaded cream, exterior ones straight, interior florets incurved, whilst the hairy character is more apparent than in Mrs. Alpheus Hardy. The latter is a sport from Louis Boehmer, but of more robust constitu-

tion. Amongst the Japanese there were some fine blooms of Alberic Lunden, the flowers being carmine crimson and the habit everything to be desired. Cleopatra is a fine white variety with very long florets. Col. W. B. Smith is one of the grandest varieties ever sent out. It has been mentioned so much in these pages that it is useless to reiterate. The beautiful Eynsford White has been in very fine condition. G. C. Schwabe, a lovely variety after the build of E. Molyneux, carmine rose, is a first-class show variety. George W. Childs, a reflexed Jap of immense size, with broad stiff petals, colour deep velvety crimson, is very distinct; the flowers are borne on very strong stiff stems. J. P. Kendall, silvery amaranth reflexed rose cerise, very broad incurving florets, a large full flower. J. Stanborough Dibben, golden yellow shaded bronze, magnificent flowers 6 or 7 inches deep. Lord Brooke figured in last week's issue, likely to prove a grand variety. Marquis de Paris, large flower, deep pink mottled white. Mattie C. Stuart, a very high-built bloom of a bright golden yellow colour, extra large. Mr. Chas. E. Shea, the yellow sport from Mdle. Lacroix, a grand variety for decorative work, a beautiful shade. Mr. G. Herring, crimson carmine with twisted and pointed florets, a very fine show variety, and of excellent habit. Mrs. E. D. Adams, white, shaded rose, large long petals and very dwarf habit. Mrs. Libbie Allen, well formed large yellow flowers. Ph. Rivoire, a grand back row flower of immense size, florets large and long, colour pale yellow passing to creamy white, one of the finest novelties of the season. R. C. Kingston, fine dark purple of largest size, good habit and a grand show variety. W. Tricker, now well known; and F. W. Flight, crimson carmine, golden reverse, florets long and broad, very fine.

The newer incurved were Ami Hoste, dark buff, yellow striped, exhibited this season with considerable success; Madame Darrier, Madame Frederic Mistral, light violet rose with violet tips; Miss Bella Wilson, a large globular flower of a delicate satiny grey, changing to lilac, fine habit and robust constitution. Anemone-flowered were Delaware, Mrs. Judge Benedict, and Souvenir de Madame Blandinieres; the two former white and the latter rosy crimson tipped gold. In the early flowering section the following varieties, which have been in flower from July onwards, will not be likely to disappoint cultivators:—Ami Mezard, Charles de Cazanove, Jean Nicholas, Madame Greard, Madame Jacob, Madame Marie Constans, Marquis de Martmort, M. Frederic, L'Usmayer, President Leon Say, President Rene de St. Foix, and Vice-President Hardy. They are correctly described in the catalogue. Propagation was being rapidly conducted. Every precaution is used to keep the varieties true to name, and altogether the work is carried out in a thorough businesslike manner, as is everything throughout the establishment.—A VISITOR.

GARDENERS' ROYAL BENEVOLENT INSTITUTION AND YOUNG MEN.

It was very gratifying to read the announcement of the result of the evening's subscription at the anniversary dinner of this excellent Institution, but the gardeners of the United Kingdom should not rest content, as the amount, however, good and gratifying, is totally inadequate even with the funds in hand, to meet half of the applicants for help, the majority of whom must be in a very distressed condition. I am afraid that gardeners do not support the institution as they ought. They should also remember that many can help one or a few, where a few cannot help many.

Anyone who has attended the meetings connected with the Institution cannot fail to have noticed the hearty goodwill in which the various members of the committee work for gardeners or their widows in distress. We should as gardeners remember, that although we may now be in good health and in the prime of life, old age soon creeps upon us, and we never know what may happen, through perhaps no fault of our own to prevent us securing a competence for old age. We should not, however, think of ourselves alone except to hope we may never need assistance, but of those needy applicants now waiting for an opportunity of being placed on the funds of the Institution, yet who for the want of capital have to wait year after year, living on hope which never comes, until the workhouse or death claims them.

I think the majority of gardeners who join the Institution (leaving out those who never think about it except when the hour of need comes) do not do so so early in life as they ought. In thinking of some scheme by which young men could be persuaded to join, I suggest that journeyman gardeners should be admitted at 2s. 6d. per annum, foremen 5s., and when they become head gardeners let them increase their subscription to 1 guinea.

To make them—i.e., young men—feel they have some responsibility let those who subscribe 2s. 6d. have one vote, 5s. two votes, and after subscribing the maximum amount the full complement of votes. All subscriptions to be acknowledged by postcard or letter circular. To insure the payments being made regularly I am sure the gardening press would be only too pleased to make any announcement, say at the end of each year as a reminder.

No doubt the above scheme if carried out would entail more work on the officials of the Institution, but I am of opinion that the response would amply compensate for any extra outlay. Let the proposition be discussed in the Press and amendments submitted. The commencement of the financial year will soon be here, and according to the support afforded so would the Institution be in a condition to make arrangements as to whether the scheme is workable.—A WELL-WISHER.

[Our correspondent is a gardener and a member of the Institution. His motive is admirable, and our columns are open for the discussion for his well-intentioned proposition.]



EVENTS OF THE WEEK.—But few horticultural events of especial interest will take place in the metropolis during the ensuing week. The Gardeners' Orphan Fund will, however, take a benefit at "Venice in London," at the Olympia, commencing on Monday, December 5th, continuing for a fortnight. There will also be the customary exhibits of roots and seeds at the Smithfield Show, which opens on December 5th. A meeting of the Floral Committee of the National Chrysanthemum Society is reported to be held at the Royal Aquarium on December 7th.

— THE WEATHER IN LONDON.—The weather in the metropolis during the past week has been mild for the time of year. Sunday opened bright and spring like; Monday, however, proved dull. On Tuesday rain fell rather heavily during the day, but it cleared in the evening and became colder. At the time of going to press it is bright, but with rather a keen wind.

— THE WEATHER IN THE NORTH.—A gale of wind with heavy rain during the night of the 28th cleared the air, which for the past two weeks has been dull, cold and wet, with an occasional watery gleam of sunshine. The night of the 25th was also very wet. Not much frost has occurred, the most severe being 5° on the morning of the 23rd. There is need of drier weather to admit of ploughing being got forward. B. D., S. Perthshire.

— THE GARDENERS' ORPHAN FUND.—We understand that the Committee of this charitable organisation has arranged with Mr. Imre Kiralfy to take a ticket benefit at Olympia during the fortnight commencing on December 5th, in aid of the Orphan Fund. We need hardly remind readers that Olympia is situated close to Addison Road Station, West Kensington, and the entertainment admirably represents life in Venice.

— MEETINGS AT THE DRILL HALL.—I should like to suggest that for many reasons it would be better both for those attending the Royal Horticultural Society's meetings at the Drill Hall, and the readers of papers, if the general meetings now held at three o'clock could be started during the four winter months at 2 P.M. or 2.30. Almost always the hour from two o'clock to three o'clock seems to be wasted, and many who would otherwise stop to hear the papers, leave early, because they cannot remain so late, and especially in such a cold hall. It is very discouraging to the readers of the papers in the winter to find that their audience comprises hardly a score of persons, and it is far from being complimentary. I wish the Council would consider this suggestion, as I am sure it would be a step in the right direction.—A FELLOW.

— ORANGES AND LEMONS FROM CALABRIA.—According to a recently issued Foreign Office report referring to the trade of Naples the produce of Oranges and Lemons last year was very satisfactory both to producers and merchants, having reached the total amount of 57,000 tons, of the value of £285,000. The fruits have risen in price of late, owing principally to the facilities granted by the railway companies, by which means a great quantity is exported to the north of Italy, where the fruit is largely consumed. It seems that no direct exportation of Oranges and Lemons was effected from Calabria during 1891, except a small quantity of salted Citrons for Russia.

— MARKET FARMING.—Talking with one of those hard-working pushing persons, a Middlesex market gardener, the other day, he told me of a fine farm of 600 acres in Hampshire just evacuated, though there were on it some fine buildings, and the rent was but 5s. per acre. He said "I am paying in Middlesex from £3 10s. to £5 10s. per acre, and get a good living even at that. Were I a younger man I would jump at the chance to take this farm, put down 100 acres in Potatoes, 100 acres in Peas, some in Brussels Sprouts, and some in corn and roots for stock, and I would make it pay." It is a striking fact that market gardening does pay better than farming, also that it gives per acre from four to five times the labour, and that much better paid. Railways have largely solved the problem of distance both for marketing crops and manures. Whatever may be the lot of agriculture market gardening conducted by able energetic men is prospering.—A. D.

— THE WEATHER IN KIRKCUDBRIGHTSHIRE.—Heavy rain fell on Sunday morning, and again at night, continuing until about 9 A.M. on Monday, 28th ult. At the time of writing the weather is dry, but stormy looking. No frost was registered during the week.—S. ARNOTT.

— NATIONAL AMATEUR GARDENERS' ASSOCIATION.—The annual dinner of this Association will take place at the Holborn Restaurant, on Tuesday evening, December 13th, at seven o'clock. The medals, certificates, and other awards won during the year, will be presented to the respective winners on this occasion.

— DAFFODILS DESTROYED BY FIRE.—According to the local papers Mr. W. B. Hartland of Cork, lost, through fire, a large number of White Trumpet Daffodils on the 17th ult. It is stated that a number of Colleen Bawn, comprising 600 bulbs, were totally destroyed. We sympathise with Mr. Hartland in his loss.

— CEPHALOTUS FOLLICULARIS.—We have rarely seen this beautiful plant in such fine condition as it is in Messrs. Low & Son's nursery. It is full of pitchers, and presents a most effective appearance. Lovers of Pitcher plants should procure this little gem. There is no doubt that it is often kept too warm.

— DAVALLIA ASSAMICA.—This rare Fern may be seen in the fine collection of Messrs. Low & Son at Clapton. The plant is claimed to be the only one in commerce, and on this account possesses exceptional interest. It is a graceful species, with both barren and fertile fronds, of which the latter are the most pleasing in appearance.

— CARNATION WINTER CHEER.—At Messrs. J. Veitch & Sons' Chelsea Nursery last week, I saw a bed of this dwarf-growing Carnation with a few of its bright crimson flowers still showing. There were also numbers of buds, which, if the present mild weather continues, will doubtless open. It is possible that, given a fairly mild winter and a protection of matting or similar material during sharp frosts, this variety may be had in flower most of the winter. For late and continuous flowering this variety is unexcelled.—J. W. J.

— ACADEMICAL APPOINTMENT.—Mr. Francis Darwin, at present Reader in Botany at Cambridge, has, on the nomination of Professor Babington, been appointed Deputy Professor for the current academical year. Mr. Darwin, who is a son of the great naturalist, is the joint author of "The Power of Movement in Plants." He has written various papers on physiological botany, and was editor of "The Life and Letters of Charles Darwin," which appeared some five years ago. He has also prepared the "short autobiography" of his father just published by Mr. Murray.

— HEAVY DOYENNE DU COMICE PEARS.—Some remarkably fine fruit of this grand Pear were grown on a young tree in Marston Gardens, Frome. The crop was rather light, all the flowers that first opened, and many of the buds as well, being destroyed by frosts. When gathered several of the fruits weighed about 20 ozs., and none lighter than 14 ozs. They were well formed, and clear in skin; but did not carry much colour. Some of these Pears were shown at the Bristol Chrysanthemum and Fruit Show, and were generally supposed to be equal to the best samples sent to the mainland from Jersey and elsewhere. It should be added that the tree is on the Quince stock, fan shaped; and, thanks to the strong clayey loam in which it is planted, is full of vigour. It occupies a rather warm corner near to a junction of south-east with a south-west wall.—R. H.

— A LUCKY SHOWMAN.—Surely the north of England is becoming famous for express Grape growing. Not long ago a gardener at Sunderland detailed his practice, as reported in the *Journal*, by which he produced ripe Grapes in ninety days; but this is now excelled by the gardener who secured the first prize at the South Shields and Northern Counties Show, November 9th and 10th, for the best dish of black Grapes, to which was also awarded a silver medal in recognition of superior cultural skill. Seeing that the gardener in question did not enter on his duties until August 15th of the present year, his success is highly creditable, and I have no doubt some notes on how to produce "finely finished black Alicante bunches" in eighty-six days would be greatly appreciated by many readers. Seriously, I would ask if it is fair and right for one man to thus reap the reward of another man's labour and cultural skill. I saw those same Alicantes only a fortnight before the present gardener took charge, and they were almost finished then. I think honour should be given to whom it is due. What say others?—CHAS. PORTSMOUTH.

— POTATOES IN IRELAND.—Under the auspices of the Royal Dublin Society a series of experiments in Potato culture were carried out during the past season. Among the varieties grown The Farmer proved the most productive, following which came The Bruce, Antrim, Scotch Champion, and The Colonel. The best quality varieties, however, were Antrim, Scotch Champion, and The Bruce.

— CHICAGO EXHIBITION.—We understand that Mr. J. McIndoe, gardener to Sir J. W. Pease, Bart., M.P., Hutton Hall, has accepted a special invitation from the Executive of the above Exhibition (department of horticulture) to exhibit at their great Show next autumn a collection of fruit similar to the one that he staged at the International Horticultural Exhibition held at Earl's Court, London, last August.

— CALLA LITTLE GEM.—During a brief visit to Messrs. Cutbush and Sons, Highgate, a few days ago, I noticed a span-roof house full of this dwarf Calla. The plants were chiefly young stock, but judging by the appearance of those in flower, I have no doubt that the variety, owing to its compact habit, will prove useful for small structures. There will doubtless be a good demand for it when better known.—J. W. J.

— THE DARWIN MEDAL.—Among other awards made by the Royal Society the Darwin medal has been awarded to Sir Joseph Dalton Hooker, F.R.S., on account of his important contributions to the progress of systematic botany, as evidenced by the "Genera Plantarum," and the "Flora Indica," but more especially on account of his intimate association with Mr. Darwin in the studies preliminary to the "Origin of Species."

— ALLOTMENTS IN LINCOLNSHIRE.—The Spalding Rural Sanitary Authority have taken a farm of 43 acres to let out in allotments to the labourers of Pinchbeck West. The land is being allotted in acre plots, and the rent charged is to be 45s. an acre, including all outgoings. The farm is well situated, and this is regarded as one of the most promising efforts for the extension of the allotments system in South Lincolnshire.

— THE TRADE IN OLIVES AND OLIVE OIL.—The last crop of Olives was a medium one, according to the consular report from Malaga. The production of Olive oil in Spain is stated to be nearly two million litres of oil, or about half of that of the European countries producing Olives. Italy takes the second place, and France the third; but the latter is small in extent of its output to the two former. The cultivation of the Olive seems to yield very unequal results, so that it is possible that it may be to that fact that the limited cultivation is due.

— LONDON PANSY SOCIETY.—The formation meeting of this Society was held at the Guildhall Tavern on November 24th. A number of gentlemen interested in the subject attended, and the Society being formed, rules, &c., were drawn up, which will be submitted to a general meeting to be held early in January, 1893. The Hon. Treasurer is Mr. Ranger Johnson, 14, Faunce Street, Kennington Park, S.E.; Hon. Secretary, Mr. Geo. McLeod, Chingford, from whom information can be obtained regarding the objects of the Society and rules of membership.

— WELL GROWN EUCHARIS PLANTS.—As a regular reader of the *Journal of Horticulture* I have from time to time noticed references to the culture of the Eucharis, but it is seldom that the size of the pots in which the plants are grown is mentioned. The Eucharis plants here are grown in 10 and 12-inch pots, and a dozen of them are now in full bloom. On the average there are about twelve or thirteen spikes on each plant each spike carrying four and five and six blooms, thus making an average of sixty flowers to a plant. On the largest plant, in a 12-inch pot, there are sixty-nine blooms, and of that number between fifty and sixty are fully expanded. I might mention that the same plants flowered about nine weeks ago.—J. ASHTON, Foreman, Kilworth House Gardens, Rugby.

— THE MARGARET CARNATIONS AND PINKS.—I am sure we are greatly indebted to Mr. Dean for having given and elicited so much information and opinion regarding the Margaret Carnations and Pinks. On reading the notes on page 391, I examined my few plants, and am disposed to agree with Dr. Hogg as to their probable parentage. The notes alluded to also reminded me of one notable characteristic of these "Carnations," which I noticed on first seeing them some three years ago—viz., the narrowness of the foliage. This had escaped my memory until then. It is highly desirable that at this stage we should have, if possible, precise knowledge of the parentage of these flowers. I hope to obtain this, and shall be glad to acquaint Mr. Dean of anything further I may hear on the subject.—S. ARNOTT.

— **POTATO CULTURE IN AMERICA.**—The greatest Potato-producing State in America is New York, which devotes to the crop (round numbers being used in all cases) 370,000 acres and raises 30,000,000 bushels, or fully one-seventh of the entire crop of the country. Iowa is second in the amount raised—17,000,000 bushels—though its area of 187,000 acres is eclipsed by the 203,000 acres which Pennsylvania gives to the raising of 16,000,000 bushels. Illinois comes next, both in area and quantity of product, while Wisconsin and Kansas cross each other for fifth place.

— **MEDICINAL PLANTS.**—A paper on "The Study of Botany" was read by Mr. Mair, dispenser to the Royal Infirmary, before a recent meeting of the Chemists' Assistants' Association, Dundee. A course of study suitable for pharmaceutical students, which had met with the approval of the leading botanical authorities, was fully explained, and illustrated with numerous specimens. Mr. Mair, in the course of his lecture, suggested that some attention should be paid to the requirements of medical and pharmaceutical students by local authorities, and that the plants in public parks should be classified and named.

— **ACACIA PLATYPTERA.**—At the present time there is nothing more showy in the greenhouse at Kew than *Acacia platyptera*. This plant is well adapted for pot culture, and, like most of the *Acacias*, is of easy culture. After flowering the plants should be cut back and kept syringed so as to make them break freely. When the plants are growing the worst enemy is thrip; a good syringing with tobacco water will rid the plants of this pest. To insure a good crop of flowers stand them outside during the summer months so as to ripen the growth. If this is omitted the result will be a lack of flowers.—J. T.

— **EUONYMUS EUROPEUS.**—This is one of the most useful and beautiful of hardy shrubs during the autumn months, the pendulous branches of which are then completely studded with capsules of a very attractive rose-magenta colour. The habit of growth is light and graceful, so that when cut the branches are well adapted for arranging in glasses, baskets, or vases. They should be arranged somewhat loosely to show to the best advantage. This shrub is of very easy culture, and will succeed admirably in dry stony positions, and on steep banks where few other kinds thrive. We have one growing out of the cleft trunk of an old Cedar tree. Propagation is easily effected by inserting well ripened shoots in the open ground at the present time, or by sowing seeds early in spring.—H. DUNKIN.

— **SCHEDULE SCAMPING.**—With the winter season upon us once more, societies in different parts of the country will be reviewing the work of the past season and preparing for the next. Committees will be at work on show arrangements, and schedules will be prepared. So far as the latter work is concerned it is too often scamped in a most reprehensible manner. Once drawn up and printed the schedule is taken as perfect, and passed season after season without the slightest revision. This is done in many cases, even when complaints and misunderstandings have been rife. A great mistake is thus made. The schedules should be gone over carefully every year and revised, so as to keep them up with the times, and so as to remove all reasonable cause for unpleasantness. If this were done all round the wheels of show machinery would run with far less friction than they now do.

— **HORTICULTURAL CHEMISTRY.**—The first of a series of four lectures on the chemistry of plants was delivered on November 23rd by Professor Ivison Macadam at the Surgeons' Hall, Edinburgh. The lectures form part of a scheme for technical education in horticulture which has been organised by the Scottish Horticultural Society, by the aid of a portion of the residue grant handed over to them by the Edinburgh Town Council for this purpose. There was a good attendance at the lecture alluded to. Mr. W. M. Welsh, President of the Society, in introducing the lecturer, commented with satisfaction on the largeness of the audience as justifying the institution of this course of lectures by the Society. Professor Macadam first showed that plants could be divided into a portion which was combustible and volatile, and into an ash or saline portion. The combustible and volatile portion partly consisted of water and partly of various and often of very complex substances, built up from the elementary or simple bodies—carbon, hydrogen, oxygen, and nitrogen. The ash or saline matter was obtained mostly from the soil, whilst the organic or combustible portion was in origin partly derived from the soil, but also to a considerable extent from the atmosphere. The various proportions of these proximate constituents were then given, and it was shown that not only did the ingredients vary in different classes of plants, but that they varied also at different stages of growth. It was also shown that the ingredients

varied greatly in the various parts of the plant. The lecturer then showed the properties of the more common ash constituents, and illustrated his remarks by experiments and diagrams.

— **THE OPENING OF KEW GARDENS.**—A deputation from the Town Council of Richmond waited upon Mr. Shaw Lefevre, First Commissioner of Works, on Tuesday last to urge that Kew Gardens should be thrown open to the public at an earlier hour than twelve o'clock on week days. Accompanying the first Commissioner were Mr. W. T. T. Dyer, Director of the Royal Gardens, and Mr. H. W. Primrose, Secretary to the Office of Works. The object of the deputation having been expressed Mr. Shaw Lefevre, in reply, said the question of the earlier opening of Kew Gardens was an old story, and not altogether free from difficulty. In 1883, as First Commissioner, he went into the subject, and with some difficulty persuaded the Treasury to sanction the expenditure of some £200 or £300 for opening the Gardens at twelve instead of one o'clock, and the Treasury, in giving their sanction, sent a minute to the Department, giving their reasons for so doing, but warning them that they thought the interests of the public generally must be considered in future rather than those of the neighbourhood. He had recently been further considering the matter, and he had referred the question of expense to a Committee which was now sitting investigating the question of the labourers' wages at Kew and the Royal parks generally, and until he knew accurately what the real cost of the arrangement which the deputation suggested would be he could not come to a final determination. He disputed the statement that not much watching would be required in the Gardens in the early morning in consequence of the paucity of the number of people, for the Director assured him that it was just when there were few people about that most watching was required. When large numbers of people were about they watched one another, and the danger to the valuable collections was when there were a few people. It must also be borne in mind that there was a great interest in the other direction—namely, that of the scientific men who were allowed the privilege of frequenting the Gardens in the morning, and Sir Joseph Hooker, the then Director, reported very strongly a few years ago against that privilege being withdrawn. A large number of persons now availed themselves of that regulation, and he had received letters from gentlemen interested in the Gardens objecting to the withdrawal of the privilege by the general admission of the public, and stating that it was of great importance in the interest of science that scientists should still have special opportunities of studying the plants.

HOYA IMPERIALIS.

ALTHOUGH introduced in 1847 the above plant does not seem to be so generally well known as are some of its congeners. It appears to vary considerably in character, for it is seldom that such a magnificent form of it is seen in gardens as that exhibited by Mr. F. W. Moore, Glasnevin Botanic Gardens, Dublin, at the Drill Hall, on November 1st. The specimen shown, from which our illustration (fig. 64) was prepared, had an umbel of fifteen flowers, of a bold distinct character, which doubtless secured the first-class certificate awarded. The flowers are of a reddish purple and cream colour, and have a wax-like varnished appearance. It is a beautiful stove plant, and should be more frequently seen.

MANURING OLD ORCHARDS.

THE graphic account given on page 414 of the *Journal of Horticulture* of the latest novelty in the Lord Mayor's procession, has doubtless been read with great interest and satisfaction by fruit growers throughout Britain, because it is an unmistakeable sign that the importance of fruit-growing as a home industry is now fully recognised. With so many splendid young fruit plantations springing up in various quarters, and such a sterling and comprehensive work as the "Fruit Growers' Guide" to show in a clear and thoroughly practical manner what to do and what not to do, there is every prospect that England will in the future grow, not only an enormously increased quantity of hardy fruits, but that the produce will also be immensely improved in quality.

Readers may naturally be led to think, But what has the foregoing to do with the work of manuring old orchards? This much: The remarks already commented upon brought back to my mind visions of some of the oldest and most extensive orchards in this country, among which I spent the years of early life. Many of these were sent to ruin and decay before their time by starvation. There seemed to have been no distinction drawn between the requirements of young trees which had nothing to weaken

them in the shape of heavy crops of fruit, and older ones which had for years been bearing enormous crops till the soil had become so thoroughly impoverished as to be totally unable to afford such trees the food necessary for the production of fruit of

ripened wood is obtained, good crops of fruit will assuredly follow if the weather is favourable at blossoming time; and whenever good crops are obtained liberal dressings of manure should follow in order to return to the soil, to some extent, the constituents



FIG. 64. —HOYA IMPERIALIS.

good quality, or even to prevent the trees passing to premature decay. Manure and over-rich soil have, in innumerable instances, been the cause of delaying the productiveness of many kinds of fruit trees; but when short-jointed, thinly disposed, and well

which have been drawn from it. This will keep the roots near the surface, make them active and healthy, and being within reach of the influence of air and sunshine they are more beneficially acted upon by the warmth of spring and summer, the fruits swell

quickly without a check, and become tender, juicy, and full flavoured.

When we consider the large amount of nutriment drawn from the soil in a single season by fruit trees carrying good crops, it is a matter for some surprise that inferiority in produce and early decay of the trees do not begin even sooner. This, doubtless, would be the case were it not for the fact that Nature sometimes recuperates herself by the trees failing to bear for a season or two. Some of the most productive among old orchards in Kent that have come under my notice are those which are continually grazed with stock. It is, I maintain, within the reach of all to increase the fertility of their orchards by applying natural or artificial manures. Stable or farmyard manure is without doubt valuable to use as a dressing for orchards as well as garden crops, possessing as it does a well blended combination of nitrates and phosphates. Being, however, not very rich in potash, a dressing of wood ashes or burnt refuse given in conjunction with it is of material assistance in supplying the necessary food.

In one respect we are placed in circumstances far more favourable than many gardeners, having abundance of stable manure at our command, as well as a plentiful supply of liquid manure obtained from the drainings of the stables, and collected in a large tank, while a heterogeneous mass of garden rubbish is being continually converted into burnt refuse. These materials we are now engaged in carting to an old orchard. The surface of the grass is first sprinkled with the burnt refuse, then a good dressing of stable manure is given at the rate of 25 tons per acre. By attending to this kind of work during the autumn months the heavy rains wash the enriching properties of the manure down to the roots of the trees and impregnate the soil with them, which practically means that so much stored up food is available for the trees by the time the roots are in the right condition to take it up, and the leaves to assimilate it. Other fruit trees will receive plentiful supplies of liquid manure from the tank previously spoken of; in fact, whenever similar tanks require emptying, whether it be during winter or summer, the rich fertilising liquid so easily obtained will be poured around fruit trees of all descriptions. If such treatment had a few years ago been given to many old orchards, in conjunction with a thinning of the branches, the trees would not now present the sorry plight they do. Let not readers suppose that I am advocating the renovation of old orchards where it would be wiser policy to plant young ones; I have treated rather of trees which bear only crops of small uninviting looking fruit, although the varieties are good and the trees themselves are neither too old nor too unhealthy to be profitable. In such instances a vast improvement may be wrought by working on the lines indicated. Trees so treated will then afford useful fruit while newly planted ones are becoming established, and it seems unlikely that the present generation, or future ones, will again allow the fruit orchards of Britain to lapse into a state of poverty and decay, either through want of knowledge or lack of energy.—LABOR OMNIA VINCIT.

PAST AND PRESENT IN THE NURSERIES.

A CALL AT LOW'S.

PROBABLY there are at least some members of the younger school of horticulturists who share my respect for old institutions. Dr. Brown Séquard notwithstanding, we have no other vessel from which to quaff the waters of the fountain of youth than wholesome and healthy lives. Decay is a law as immutable as the counter law of development, and the tendency to decline affects business houses as well as men. They have their growth, apogee, and fall. But there are some which gain strength with age, sending out fresh shoots and fibres because grounded on a strong foundation, managed with skill, and nourished by just methods. There is dignity about them, for the confidence they enjoy has been earned by the good work of more than one lifetime, and it should not be forgotten that in the changes necessary to adapt material and methods to ever-changing fashions there is a task more difficult of adjustment than the starting of a new venture to fit the special moment that sees its birth. If these changes be not conducted in the right way and at the right moment decline commences; if they be effected with comprehensiveness and promptitude the old house keeps abreast and even ahead of its rivals. No better example of this could be pointed to in the world of gardening than the North London firm of Hugh Low & Sons. Here we have a great trade institution founded three generations ago which has gone on growing years after its early rivals have decayed, and which, instead of mouldering in senile decrepitude, is full of the vigour of youth, with conveniences that extend and a business that grows season after season. It will give an idea of with what consummate skill the sails of this great trade ship have been spread to suit the varying breezes to point out that as it was a great house years ago when Cape and New Holland plants were popular, so it is a great house now that Orchids rule the destinies of horticulture. At the old Clapton Nursery nearly a hundred large houses shelter the large and choice collection of plants, including Orchids, there grown, and they are supplemented by vast ranges of pits, while at Bush Hill

Park there must be sixty or seventy more houses, and also about fifty acres of fruit trees and Roses. The latter nursery was founded a few years ago, when more space was imperatively demanded by the spreading of the old tree's branches. To the few remaining veterans who knew Low's in its early days a visit now would do more than revive old memories; it would show the wisdom of adaptability to the needs of the passing hour.

ORCHIDS.

Rarely is so splendidly grown a collection of Orchids met with as that at Clapton. No one could fail to note the enormous number and fine condition of many popular kinds as well as rarer forms. Such favourite Dendrobes as crassinode, Wardianum, nobile, Parishii, thyrsoflorum, Devonianum, and Picardi are abundantly represented, while the remnants of a large batch of *formosum giganteum* lend welcome brightness at a dull period of the year. A large house nearly full of *Angræcum sesquipedale* in splendid condition constitutes one of the best collections of this beautiful Orchid in cultivation. *Phalænopsis*, so troublesome to many growers, flourish in great numbers, and are in the rudest health. There is a large houseful of *Veitchiana*, *Schilleriana*, and *Luddemanniana* just coming on. They are pinched so as to throw the flowering over until January or February with the object of escaping the worst of the fogs, which otherwise would work terrible havoc. In another house is a healthy piece of the white *Schilleriana*, a most valuable plant. *Cypripediums* have the attention that their importance merits, and many fine species and forms are observable. *Volonteanum*, *Crossianum*, *Harrisianum*, *Elliottianum*, *Sanderianum*, *callosum*, and *Spicerianum* are largely grown. So are *Leeanum* and its varieties, of which *claptonense* is one of the freest and best. *Leeanum superbum* and the lovely form *Lowi* are also beautiful. *C. Chamberlainianum* is in bloom with many others; *C. insigne Mooreana*, with light brown sepals and petals; *C. Heynholdiana*, which differs from *Lowi* in its spotted dorsal sepal; *C. Sedeni candidulum*, *C. cardinale*, and *C. calorum* are all worth noting. But most remarkable of all is a splendid house 80 feet long of *C. bellatulum*, of which, notwithstanding that it is a spring bloomer, there are many flowers open. The plants are growing like Cabbages, and as full of handsome foliage as well-grown Cyclamens. A house of *Cattleya Mossiae* 156 feet long awakens impressions of what it must be like when the plants are in the full glory of summer bloom; 1000 flower spikes open at one time form a display of marvellous beauty. *Epidendrum ciliare*, with green sepals and petals and fringed lip, grows like a weed. *Oncidium ornithorhynchum* and the violet-scented *On. tigrinum* are both noteworthy. One side of a house 160 feet long is solely occupied by a splendid importation of the Pacho type of *Odontoglossum crispum*. There is also a very fine collection of imported *Od. Roezli*. *Vanda Amesiana*, with its delicious Gardenia-like smell; and *V. cœrulea*, of which there is a grand stock, are in bloom. Very striking, too, is *V. Kimballiana*, although not in bloom. The collection of this lovely Orchid is a very large one, and the plants are in superb condition. *Restrepia Leopoldi* and *striata*, *Cattleya superba splendens* Rio Negro variety, the true *Angræcum Ellisi*, and a piece of Chantini's original plant of *Cypripedium insigne Chantini* are of special interest. In short, there is abundance of material at Low's to satisfy all types of Orchid growers, and even at this the dull season, when flowers are comparatively few, the enormous collection has much to arrest attention. The best culture is observable in every one of the many houses devoted to Orchids.

PALMS.

More wonderful than the Orchids, in one sense, are the Palms. They are grown by hundreds of thousands, and the houses devoted to them would form a large nursery in themselves. There can be few places, one would imagine, in which Palms are grown on so colossal a scale as they are at Low's, and the plants are in perfect condition. *Latania borbonica*, *Kentia Belmoreana*, *K. Forsteriana*, *Geonoma gracilis*, *G. Schottii*, *Cocos Weddelliana*, *Areca lutescens*, and different *Phoenixes* are amongst the most largely represented, and the long houses crammed with them are enough to make any visitor wonder where the plants all go to. They are not marketed, but are disposed of through the usual business channels. The demand must be altogether in excess of the highest estimate that the non-professional or rather non-trading person would estimate, and this is a very gratifying sign.

OTHER FOLIAGE PLANTS.

Crotons and *Dracenas* hardly need mentioning, for it would naturally be expected that they would be largely represented. They are, and they are in splendid condition. Then there are large quantities of *Pandanus utilis*, also of *Asparagus plumosus* and *ranus*. *Araucaria excelsa*, too, is grown in thousands. The stock of *Aralia Sieboldi* appears large enough to supply the whole country, and the same might be said of *Aspidistra lurida variegata*. The latter is chiefly grown at the Bush Hill Park Nursery, where, too, there are several houses full of India-rubber plants and a magnificent stock of *Ficus elastica variegata*. The plants of the latter are models of health and beauty. In every case, and in that of numerous plants that are not mentioned, health and cleanliness are unexceptionable. Taken all in all the stock of foliage plants is one of the wonders of this extraordinary establishment, which has grown with time until it has attained gigantic dimensions.

HARD-WOODED PLANTS.

To the horticulturist of twenty-five years ago and more the collection of hard-wooded plants at Low's would awaken recollections of the

former popularity of this beautiful, but now neglected, class. There is still a splendid display of them, and in noting the number of houses and pits full of plants it would be easy to imagine that a revival had sprung up. A fine house of Epacris at Clapton is noteworthy in itself, but far more so are the long ranges of pits full of Heaths. The plants are propagated from cuttings by thousands without the slightest trouble, and are in all stages, some 3 or 4 inches high and as much through; others of flowering size. All are the picture of health. They grow with the greatest freedom, so thoroughly have all their wants and peculiarities been taught by the experience of years. At Bush Hill Park there are great houses full of plants in bloom. *E. ventricosa*, *E. hyemalis*, and *E. melanthera* are a trio that are grown in thousands. Acacias are another remarkable feature, the beautiful and easily managed Drummondii being one of the most largely grown. Then there are Chorozemas, of which Lowi is very much in evidence; *Genetyllis tulipifera* in large quantities; *Pimeleas*, *Boronias*, such as *heterophylla*, *elatior*, and *megastigma*; *Aphelaxis*, and many others. *Correas magnifica*, *pecta superba*, *Brilliant* and *cardinalis* also form a beautiful display.

Other plants can only have a passing reference to indicate the scale on which they are grown. There are thirteen long pits full of English grown Azaleas at Clapton, splendid plants all of them. Of *Genistas* there are several more, together with houses at Bush Hill Park. There are *Gardenias* in enormous numbers, all glistening with health. *Cyclamens* form a little nursery of their own, for there are ten large houses full of beautiful plants. *Berried Solanums*, *Bouvardias*, *Camellias*, and *Daphnes* are grown in thousands, while pot Roses are another nursery in themselves.

ROSES AND FRUIT TREES.

The wonders of the glass houses at Bush Hill Park do not exhaust the interest of the nursery, for, as mentioned above, there are 50 acres of fruit trees and Roses. The dwarf Roses for sale are a magnificent collection, being fine healthy plants full of vigour. Besides them there are 120,000 budded this season, and thousands of cuttings for own-root plants have recently been put in. Apples and Pears in all the popular varieties are represented by splendid trees in all stages. One piece of budded Apples, comprising 25,000, is very striking. There are fine quarters of standard trained Peaches and Cherries, also of espaliers and pyramid Pears, while two-year-old Apples have all the vigour and substance of trees at least a year older. Vines are another strong feature. Want of space forbids any further enumeration. Let it suffice to say that everything bears the impress of high culture. That is the great secret of success everywhere, and in the case of Low's it has undoubtedly had a large share in the enormous magnitude of their trade.—W. P. W.

THE BLUE TIT AND FRUIT BUDS.

I READ with much pleasure in your last issue Mr. Hiam's defence of the blue tit. Notes from such an observant naturalist are valuable, and I know of few men who take so much pains to verify their statements as my friend of "The Wren's Nest." The blue tit is one of the gardener's best friends. In the winter he is busy among the fruit and other trees searching for the ova of insects. Now above, now swinging under the branches, here, there, up and down, with quick action he peers into every crack and cranny, not only for the ova, but also for the dormant insects. Many a time have I watched these birds through a glass and seen how dexterously they with their sharp-pointed beak clear out the fruit-tree pests, and thus I have benefited by their work. What millions of insects and ova these little creatures must destroy in the winter months, and what "a blight" there would often be in the spring were it not for them. A few weeks ago I watched a party of these beautiful birds among some large Thistles (commonly called the Scotch), and I was delighted to find they were feeding off the seeds, and for two days then they were swarming about the Thistle heads until "food there was none." This was new to me, though I have been a field naturalist all my life. Goldfinches I have often seen thus employed, but never blue tits, but I have cole tits. True, when the weather is very dry and food scarce these blue tits will sometimes peck holes in Pears, &c., but that oftener is very far outweighed by the vast amount of good they do. Both the cole and the marsh tit are of much service, and I am glad to see all in my garden frequently.

I quite agree with Mr. Hiam, and that without any reservation, that the bullfinch and the sparrow are birds not wanted in or about our orchards, fruit trees, or gardens. I have watched these for more than half a century, and beautiful as I think the bullfinch is, and interesting in many ways, I would not have one about, or a sparrow either, if I could help it. Both have tried my patience even beyond endurance, and if more people would only note the true habits of birds as closely and as carefully as Mr. Hiam we would not be so often troubled with assertions about bird life that are scarcely founded so much upon fact as sympathy; and yet no one can say but what Mr. Hiam, and I will also include myself, has and have a delight and continued pleasure, nay even a love, for birds. Neither of us speaks because we would destroy simply. Truth must stand, however it may be denied. The bullfinch and sparrow are pests.—HARRISON WEIR.

I OBSERVE Mr. J. Hiam, Astwood Bank, is of the opinion that the above birds do not injure fruit buds nor kill bees. *Parus minor* is not so destructive to living bees as *Parus major*, but while plenty of dead ones are about contents itself with them. This, however, does not prevent it catching living ones, both during winter and while

feeding its young. In a very short time one bird will destroy all the buds of a fair-sized Currant or Gooseberry bush, and if several are about they will attack a Plum tree, and not leave it until but few buds remain. Sparrows do the same, and, like the tits, have virtues as well as vices. For the former substitutes can be found, but the latter cannot be overcome without great expense. *Parus major* is very destructive on living bees, but less so on bush buds than *Parus minor*. It is, however, too mischievous in that respect to be tolerated. It also attacks buds of other fruit trees the lesser one does not interfere with.—W. T.

YOUR correspondent, Mr. Hiam (page 459) inquires for the experience of other readers on the above. My experience is that both "A Lanarkshire Bee-keeper" and Mr. Hiam are right so far—namely, that titmice in the winter and early spring are very fond of bees when other food is scarce, particularly the large oxeye tits. I have watched them picking the bees to pieces, and have seen the snow sprinkled with the remains of the bees after they have been feeding. They will even tap the hive, woodpecker fashion, for the bees to come out to their destruction. I have a good many hives of bees and a large number of fruit trees, and I quite agree with Mr. Hiam that titmice do not eat fruit buds. I have many times watched them, and found it was insects they were in search of, but they have a nasty habit of pecking Pears near the footstalk in the autumn, causing them to decay; and they are certainly fond of late Peas in October. To my mind the only bird that destroys fruit buds in rural districts is the bullfinch, and if you want fruit where they are numerous they must be destroyed.—R. MAHER, *Yattendon Court*.

VINE LEAVES AND LATERALS.

I AM pleased to see the name of Mr. D. Buchanan appear in the *Journal* again, especially in connection with this subject, as I am aware of the varied experience he has obtained in the Grape-growing establishments of Scotland. That he is doing good work in the Forth Vineyard is made very clear to my mind by the description given of the brightly coloured leaves in the large vinery there. My opinion is that beautifully tinted leaves are a sure indication that the Vines carrying them are in excellent health, full of activity at the roots, and that the house management is such as to secure a gradual and natural ripening of the foliage. Unhealthy Vines sometimes during the growing season produce pale green or even yellow leaves. This may be in consequence of the soil being deficient in those constituents which supply chlorophyll to the leaves, or because through other causes the roots are not active enough to extract a sufficient quantity from the soil when it is present. Some might argue from this that beautifully tinted leaves were a sign of unhealthy Vines, but they should remember that the gradual change in the colour of foliage in autumn is due to a diminishing flow of sap which takes place *after* the leaves have performed their proper functions, not *before*, as in the case of yellow ones produced during the growing season. My opinion is that the beautiful colour in Vine leaves which Mr. Buchanan speaks of is not accounted for by the particular kind of soil in which the Vines are grown, so long as that soil is capable of producing good foliage and wood, but that they are the natural consequence of proper treatment. This opinion I think I can support with plenty of facts.

In the first place take as an example Vine leaves which have been badly infested with insects during any stage of their growth. Instead of turning yellow, bronze, or red, they assume a rusty brown colour as autumn approaches and shrivel prematurely, while the footstalk is left hanging to the Vine shoot, proving conclusively that the leaf tissue collapsed before its natural time; leafstalk and leaf should fall almost simultaneously. Next call to mind Vines which have been kept perfectly healthy up to the stage when the Grapes begin colouring. Moisture, with some cultivators, is then suddenly withheld, the atmosphere of the house being kept too hot and dry causes the leaves to lose their freshness and to become dry and brittle. Leaves on Vines so treated turn a rusty brown at the edges; they often have well coloured markings, but the colour is not vivid and they lack that glossy appearance which healthy leaves have quite up to the time of falling. Leaves such as those which I have described do not fall gradually, but come down in showers.

Contrast such leaves with those on Vines in perfect health, receiving good treatment and plenty of fresh air night and day while the Grapes are hanging. The colouring of the leaves then takes place gradually, there is a fresh glossiness in their appearance, they have no rusty brown edges which are brittle enough to crumble to pieces when pressed between the fingers, and even when they do fall they seem to do so reluctantly, one falling here and there, instead of coming down in showers. They fall simply because they have arrived at maturity, and having thoroughly performed their functions, the supply of sap, which has been gradually diminishing, at length practically ceases to flow.

In regard to the leaves sent by "J. L." and Mr. G. Nottage I doubt not that they were wonderfully fine samples, but it should not be forgotten that with the exception of Trebbiano, Gros Maroc produces the largest leaves of any Grape in cultivation.—H. DUNKIN.

THE identity of correspondents has little to do with honest discussion, so passing on to Mr. Dunkin's third sentence (page 433) I make bold to say every reader will agree with its truth—"The test of experience is displayed in the results achieved." I think Mr. Dunkin

has yet to explain the nature of his experience in Grape growing at Warwick Castle, and I suspect that Mr. Ward grew good Grapes before he saw Mr. Dunkin, and no doubt will do so now that he has left him. If Mr. Dunkin can invite me, through the Editor, to join Mr. Iggulden in the inspection of his produce, I will, in return, invite both to view mine, and entertain them with the greatest of pleasure. They will see we follow no rule-of-thumb practice, but we have some Grapes left, and Peaches have turned the scale at 10 ozs. Has Mr. Dunkin yet told us all he knows about Grape growing at Warwick Castle? I trow not.—WARWICK.

[We think the time has arrived for Mr. Dunkin to tell the public what he told us at the commencement of the discussion. He seems to have purposely left an opening for critics, and can now carry out his original attention.]

ROCKERIES AND ROCK PLANTS.

IN reference to your note on page 214 anent the presentation of rock plants to the Royal Horticultural Society by the Kew authorities, I am glad to see that public taste is still turning in this direction. I am sure that no class of plants give so much pleasure to people who appreciate hardy flowers as those which are suitable for the rockery. They are even more interesting and useful for making a display in a limited space than those which are confined to the border as herbaceous plants for the reason that they do not require nearly so much attention in the matter of staking and keeping the ground clear of weeds. I fear gardeners in general do not pay so much attention to this class of plants, or, indeed, to hardy plants in general, as they might and ought; but probably the day is not far distant when they will find it imperative to do so. In conversation with specialists who are large and frequent exhibitors at exhibitions held at various times of the year I have been told how little notice the average gardener appears to take of such collections, while those who do are always on the look out for anything new or rare, or improvements on older forms in any way. More than once I have been told by those in charge how amusing it is to hear the names which are sometimes given by gardeners to simple and common plants when inspecting the collections.

It is surprising what a number of varieties can be accommodated on a small rockery by a proper method of planting and attention. I know that in many gardens there is not the slightest semblance of a rockery, nor even perhaps a suitable place for one, but one can generally be found if two persons, employer and gardener, are in the right mood. It is not necessary that a costly arrangement should be undertaken in making an interesting rockery, provided that there be stone on or near the place; but where suitable material is not to be had for some hundreds of miles it is different. It is not necessary either that elaborate details of arrangements should be carried out before the stones are placed ready for the plants. The main object should be to provide all available space for plants rather than what is sometimes termed "artistic grouping" (?), for after all, how much of the artist's handiwork is seen after the plants are firmly established? The bulk of the stones are hidden, or they should be, by suitable creeping plants. Who would think of exposing a considerable part of overhanging stones, and do without such effective and interesting plants as *Arenaria balearica*, *Aubrietia Campbelli*, or some of the Mossy Saxifrages? The arrangement which provides the greatest amount of surface planting room is that which meets with most favour amongst plant lovers, if not amongst professional rockery builders.

Everyone having a particle of experience of rock plants prefers the natural stone, even if it be but flint, to that which is got up as imitations and composed of broken bricks, clinkers, or flint stones broken into small pieces, the whole being faced with cement. For years after being built it is difficult to coax anything to live on the latter, even *Herniaria glabra* has refused to associate itself with the sham-built rock and has preferred death. Some chemical influence connected with the cement is, I presume, the cause of the non-growth of plants which come into touch with it. The rockery which is fully exposed to the sun all day is not in the best site for successfully growing the greatest number of plants. That which is situated on the north side of trees giving some shade, but which are far enough away to prevent dense shading is better. The north side of the rockery should not be wholly exposed to the full blast of biting winds from that quarter and the east, although plants which are subjected to a little of such conditions are more reliable than those which are huddled up in an oven-like situation. Rockeries should be made longer than they are wide, and are better if running east and west. The northern side provides an opportunity for the growth of plants which object to the glaring sun, such as *Ramondia pyrenaica*, for instance, and the Ladies' Slipper Orchids, also *Trillium grandiflorum*. For the purpose of comparison, classification, and effect, all families, such as Anemones, Saxifrages, and dwarf Campanulas ought to be massed together. This is much better than the "higgledy piggledy" system sometimes adopted.

Such plants as the Gentian family can be managed successfully if they are planted on the sunny side of a block, although many persons fail to grow *G. acaulis* to perfection. I have been fortunate enough to obtain as many as twenty-seven fully expanded blooms of this variety on a patch 12 inches square; it was a veritable sheet of blue, and the flowers remained in perfection a long time. A thin soil, composed of loam and old lime rubble, is all that is required, but the great point is to provide water at the roots in quantity while new growth is being made after flowering is past. During very hot weather some shade is essential;

I afford that by laying a few common Laurel twigs on the top of the plants, removing them at night and during dull or wet weather. Where the roots are burnt up by powerful sun and no water is given it is not to be wondered at if this plant refuses to succeed. I mention these facts to show that to be successful with all rockery plants it is something more than a question of simply planting them and expecting them to grow and flourish. Another instance of a "miffy" plant under ordinary treatment is that magnificent blue-flowering perennial *Lithospermum prostratum*, which almost rivals the Gentian in intensity of colour under satisfactory conditions; or take again the brilliantly coloured Californian *Fuchsia*, *Zauchneria californica*, which will grow like a weed where the conditions are favourable.

Rockeries should not be limited to strictly rockery plants, but with a view to make them interesting over a longer season such plants as *Spiraea callosa alba*, *S. brumalda*, various low growing Heaths, and *Hypericum caprifolium*, which is attractive both in flower and when bearing fruit, should be added. Even bulbous plants go a long way to embellish the rockery. What could be more effective early in January than a clump of *Galanthus Elvesi*, with from 100 to 200 blooms expanded at once? It may be followed by various *Narcissi*, *Scillas*, and *Chionodoxa Luciliae*. I could give a list of suitable plants for rockeries to bloom at various periods as a guide to intending planters, with a note on their peculiarities of growth if any, but fear the Editor is thinking I have already said enough.—E. MOLYNEUX.

JOTTINGS ABOUT FLOWER BEDS.

MR. DUNKIN says, in the *Journal of Horticulture* for February 25th of the current year, that he is strongly in favour of using old Zonal Pelargoniums. I am of the same opinion, so much so that I have followed a system of my own since I came here over seven years ago, and which has proved in every way a success. I lift all my Pelargoniums, which are in pots, the first or second week in October, and place them in a vinery that is started about February 1st. They receive no water, unless they are inclined to shrivel, until February 1st. They are then cut down to one eye on each shoot, and syringed daily until they break. When they have started into growth freely all the soil is shaken from the roots, and if there are any very strong roots they are shortened back. The plants are then potted into the same sized pots. The soil I use is what Chrysanthemums have been grown in, and this is rubbed through a coarse sieve; the pieces of sods and bone dust that have been used form a lasting compost for the Pelargoniums. The plants are placed back in the vinery until growth has fairly commenced, and then they are removed to a Peach house, started about March 1st. They remain in this house until severe frosts are passed, and then put into cold frames. They are planted or plunged in the beds the first week in June, so close that no soil can be seen. They are in bloom when planted, and continue so until October. The plants being put in the beds in the pots prevents them making too much growth in a wet season.—T. C., Leeds.

AN ATTRACTIVE FLOWER BED.

BEFORE the useful jottings on this subject, which have appeared lately in the *Journal* are finished, I should like to add a short note on a combination which is admirably suited for filling large beds in prominent situations, such as the centre bed in a large flower garden. This is a mixture of *Lobelia cardinalis* and *Calceolaria amplexicaulis*; the bright red flowers of the *Lobelia* and the lemon yellow *Calceolaria* blend admirably together. The *Lobelia* should be planted in small clumps over the bed at about 18 inches apart, and the *Calceolarias* dotted amongst them. When the latter have made good growth peg them evenly over the surface of the bed, and it is advisable to support their flower stems with neat stakes. When cut down by frost the *Lobelia* roots should be lifted and placed thickly in boxes, wintering them in some light position where frost alone is excluded. The *Calceolaria* mentioned is more tender than the other bedding varieties, and is best preserved during the winter in boxes, treating the plants the same as bedding Zonal Pelargoniums. Plant into rich soil outside when all danger from severe frost is over.—O. C.

ANTIRRHINUMS FOR BEDDING.

IN the near future this class of plants will play a prominent part in the embellishment of our gardens during the summer and autumn months now that distinct colours can be obtained true by propagation from cuttings. In some instances they come very well from seed, but propagation from cuttings is the most satisfactory way of obtaining a true stock. Although the striped kinds may be novel in point of colouring, I prefer the self colours, which can be employed so much more in harmony with other things in the garden than can the striped varieties.

As late as the middle of October we had some hundreds of plants of an exceptionally fine type of a white-flowered kind, which were smothered with blossom, and had been since the end of May, with one exception during a long spell of dry weather, which in addition to the plants growing at the foot of a Holly hedge, gave them a check. The mention of their being in flower at that period is made to show what a length of time Antirrhinums can be had in bloom. In addition to the white above named I have a splendid soft yellow and three shades of dark coloured sorts, in all five distinct colours, which if judiciously employed can be made to give a good display next year. Antirrhinums

grow so freely, and give so little trouble that the wonder is to me that they have not been more numerous employed in the embellishment of our gardens.—E. MOLYNEUX.

THE CARNATION MAGGOT.

THIS pest seems to be getting very prevalent again this winter, for its work of destruction seems to be chiefly performed at this time of the year. Calling in at a Kingston garden the other day, where Carnations are largely grown, I found the gardener yet busy potting his rooted layers, and as he did so was searching for the maggot. In not a few cases the main stem or heart of the plant was already destroyed, in others the side shoots only had been eaten, and in some instances but a leaf or two. These were gathered, and the tiny depredators exposed to view. As evidence of the tenacity of life these insects possess, the gardener told me that he had put several into a saucer that contained pure paraffin for several hours, and that did not kill them. If that be so, it is evident that very drastic dressings indeed would be needful to kill the maggots. What seems obvious is that dressings in some form early in the autumn are needed to render the plants obnoxious to the parent fly which deposits the eggs. That these are laid in the sheaths of the leaves there seems to be no doubt, as in nearly all cases the maggot is found at the base. Still my friend would have that sometimes the leaf was burrowed or eaten from the point downwards, but howsoever the attackers commence, there can be no doubt whatever but that they are a source of exceeding trouble and annoyance. So far as I gather, plants grown under glass are not so affected, but if layers be so out in the open, and then potted, nothing seems able to save them.—D. K.

SHERBORNE CASTLE, DORSET.

IN the days of the old Potato exhibitions there was no more enthusiastic attendant and judge than Mr. Pragnell, of Sherborne Castle Gardens. How much he would have enjoyed the grand autumn show of Potatoes at Earl's Court I know full well, for I was enabled to visit Sherborne on October 1st, and learnt from him that he was still as enthusiastic over the noble tuber as ever.

Sherborne is situated in a lovely county, and the park attached to the castle is one of a delightful nature, for it is very undulating, is finely wooded, and has in it a lake of water that is of immense area, and adds exceeding beauty to the demesne. The present mansion, though just a little of castellated form, is not a castle, and is of somewhat Elizabethan architecture. The main portion or centre was, it seems, built by Sir Walter Raleigh, who found it a favourite residence, and near to the ruins of what is a very ancient castle. Situated on high ground beyond the lake there is not only a stone seat that was built by Raleigh for his own special enjoyment, but there is also a stone alcove called Pope's Seat, in which the poet of Queen Anne's time used to spend many of his pleasantest hours. The ruins of the castle naturally have great charm for the archæologist, as also has the grand church or minster in the town, about half a mile distant, the foundations of which were probably laid some 1200 years ago. The present mansion has been enlarged by the addition of wings, and that too is situated on an eminence and is well sheltered by lofty trees, whilst from its chief fronts run away to the lake, broad if somewhat bare lawns or glades of grass.

The kitchen gardens are within easy distance from the mansion, and Mr. Pragnell resides on one side in a roomy house. Just before entering the park a number of varieties of *Crataegus*, planted in a triangular enclosure, attract attention. These were planted some forty years ago by Mr. Pragnell's father, and were supplied by the Messrs. Osborne of Fulham. The collection is probably one of the best and most representative to be found outside of a nursery, and presented in many respects when I saw the trees, not only exceeding beauty in the berries, but also great variety. Bordering one of the roads that margin this group of Thorns are many very fine, and indeed beautiful, trees of what is probably *Fagus incisa*—at least, it is here termed the Fern-leaved Beech. A more beautiful avenue or bordering tree than this is—so pyramidal, dense, elegant, and leafy—could hardly be found. There is near the mansion one of the finest *Salisburia adiantifolia* to be found in the kingdom, for this noble tree is some 65 feet high, and it is well furnished. Cedars of Lebanon are about the grounds in very fine form; some of remarkably erect growth.

Mr. Pragnell has plenty of fine Grapes to show in his vineries, an entire house being devoted to Mrs. Pince's Black Muscat; it has a very fine crop, and richly coloured. It hangs well if needed till Christmas. Another house is devoted to Black Hamburgh Grapes, a third one to Muscat of Alexandria, a capital crop, and a further one to Lady Downe's, also in excellent condition. These are the chief Grapes grown here. The culture of Pines is still a feature here, fruiting and successional plants being in the best possible condition. Wall fruits have been good and plentiful, and trees generally are in good form. On some hard-pruned Apple trees in the kitchen garden King of the Pippins, Lord Burleigh, Adam's Pearmain, Scarlet Nonpareil, Egremont Russet, and some other good dessert sorts are carrying heavy crops. Lord Burleigh is in great favour for its excellent keeping qualities.

Very considerable quantities of Chinese Primulas are grown in numerous varieties, for Mr. Pragnell is fond of cross-fertilising these flowers, and has a capital selection. Cinerarias, too, are excellent. A very curious illustration of the capacity of what is usually esteemed a tender plant to adapt itself to adverse conditions is evidenced in *Ficus repens*, which, growing luxuriantly in a stove, forced some of its shoots

through loose joints in the door jambs, and spreading over the wall outside on a north aspect, where it grows as freely as inside. If such be the case may not this *Ficus* be absolutely hardy after all?

Tomatoes on a south wall—Laxton's Open Air, Acquisition, and others—were giving a heavy crop of fine fruit. Some spare frame lights stood in front were helping the fruit to ripen materially. The true stock of Pragnell's Exhibition Beet is still growing here. None other is grown or seeded, hence the stock does not become mixed. The day previous I saw at Longford Castle a remarkably true and refined stock of the Pineapple Beet, which seemed to be a long way better than are the samples seen in market gardens.—A. D.

TULBAGHIA VIOLACEA.

A PRETTY little hardy bulbous plant, which is far too seldom seen in gardens, is that represented in the woodcut (fig. 65). The name may be said to be the least recommendation possessed by the plant, for it is



FIG. 65.—TULBAGHIA VIOLACEA.

by no means euphonious, though the plant itself is both graceful and attractive, and should be more generally grown. The flowers are rich purple, and are borne in large umbels, which have a pleasing effect when intermixed with other hardy flowers. It succeeds in any light moderately rich soil, and requires no special attention in its cultivation.

NOTES ON GARDENS AND GARDEN MANAGEMENT.

[Abridged from a paper read at a meeting of the Ancient Society of York Florists by MR. H. J. CLAYTON.]

My subject appears to divide itself into two parts—viz., (1) Gardens and (2) Management. First as to gardens. I need not trespass on your time and attention as to the antiquity of gardens. The oldest and best book the world knows has proved this for all; our Ancient Florists' crest, too, gives us an allegorical picture of the first gardener and his wife. If time permitted I might refer to the gardens of ancient Greece and Rome, though the records we have do not go to prove that they were common, save in their larger cities. China has probably been the possessor of gardens in a general sense longer than any other country.

To come to our own land. We have to admit that gardens are comparatively of a modern character in the sense we understand them, though possibly the cultivation of small plots of land was more general

pro rata to the population at one period of our history than even now. However, I think most of you will agree with me in saying it is this our own period that has witnessed the great development of gardens in their higher scale. Various causes have brought this about. Steam and its concomitant extension of commerce having caused a greater accumulation of wealth as a whole, and also a greater dispersion of it among the whole population has given to more people the means of enjoying the pleasures and advantages to be derived from gardens. I venture to think and hope we are not yet at the end of our tether in this direction. There is yet room for more gardens both public and private. Speaking of public gardens I allude to those open to and supported by them. I think I hear some of my hearers say, Where is the money to come from? My reply is, Suppose a few hundreds of thousands of pounds which we now expend in other luxuries were gradually diverted into this channel, would the public suffer thereby? Without being at all pharisaical, I must say that the benefits to be derived by so doing are manifold. However closely the subject may be examined I can see nothing but good therefrom. As to private gardens I would include all kinds—front gardens, back gardens, window gardens, suburban gardens, and allotment gardens. Time will not allow me to enter largely into the question of exhibitions of all kinds in connection with gardens. Suffice it is to say they are of a nineteenth century creation so far as I know, and on the whole have done much to increase the pleasure, profit, and privilege to be derived from gardens.

GARDEN MANAGEMENT.

Here I am more at home, though the command given to the first gardener—viz., to “till it and dress it”—has to me a marvellous fecundity in it, and seems in a sense to cover the whole ground of management. What duty does a gardener execute in his garden to-day that cannot be brought under this command? Tilling may be said to include draining, digging, and every other operation for preparing the soil for the seed and plants of the expectant crops. To obtain these in a satisfactory manner the best seeds should be sown at the right time and in the right manner and medium. Dressing would include thinning the crops, keeping down what we term weeds, and reaping the produce.

Perhaps here may fitly come in a few remarks as to what is the best school for a youth who hopes some day to manage a garden. I should decidedly say a moderate sized garden from which good results are regularly obtained. It is not wise to be too anxious to get under a glass roof at once. Outdoor culture forms the base of all good gardening. Once learned it is not easily forgot. How many otherwise deserving young men, when describing the garden they are employed in, commence by telling of the outdoor garden? Is it not far more general to hear what glass there is and what more is about to be erected? I do not for one moment wish to speak lightly of what I may term the higher duties of a gardener—viz., under glass cultivation—I only want to prove that more men fail when appointed as garden managers by knowing less of the outdoor portion than the indoor one. I have heard of a gentleman saying, when inquiring for a new gardener, “Send me a man who can grow a regular supply of good vegetables. My garden literally smells of Pines, but I and my friends cannot live on them alone.” A notebook in which to record work done, and seen done, should be kept. It is well to have the right-hand page clear, for notes on the results of those on the left-hand one. Be sure and attend to details, they are the base of all sound knowledge. When changing situations endeavour to get into one where the practice is somewhat different from the one left. Read good books and papers bearing on your profession. They are more numerous, more instructively written, and much more easily obtained now than in former times.

After some ten years and upwards of varied experience will come the time for looking out for a garden to manage. The first charge is an important epoch in a gardener's life. He should take his bearings well, as besides those who employ him the eyes of his *confrères* will be upon his conduct and work. It is well to pay strict attention to the former especially. Never forget it is their means and in the main their time you are using. Do not be afraid ignorant people thinking you a mere servant. To my mind the motto “I serve” is a noble one, and worthy as a crest for the best of men. In every respect always be loyal to your employers. If you are found faithful in small things it will be a sure passport to further trust. In case you cannot conscientiously give this loyal service seek the first opportunity of securing another situation, but do not panish yourself in this way too much until you have used every fair effort. Of course there are some unreasonable employers as well as employed. As a rule the former do not get efficient servants for long, nor the latter succeed in life. Find out the wishes of your employers as to their requirements from the garden you are managing. Try and meet them. Aim at having all things under your care in as good condition as the means given will allow of. Do not get shipwrecked on the rock of wanting to exhibit the produce grown under your management if your employers object. In all probability they will allow you this privilege in due time if they find you faithful in your duties generally. I once heard an owner of a large garden say that the best exhibition table for a gardener was his employer's table, and his gardens and grounds. This may not be the whole truth of the matter, but there is, in my opinion, some wisdom in it; anyhow, there will always be sufficient who will allow their gardeners to exhibit their produce, so as to keep up the splendid horticultural exhibitions we now have all through the country. This is proved, I think, by their increasing numbers as years roll on. I mentioned the eyes of your

confrères would be upon you. Try to raise your work to the level of the very best of them. Above all things avoid the too frequent plan of insisting to your employers and others what a very ignorant man your predecessor was. To my mind this is the worst blot on the fair fame of gardeners as a body, who in many ways are noted for the sympathetic bond that runs through followers of our ancient craft.

Other gardens should be visited as opportunity occurs. Few observant men can walk round even the smallest garden without learning something, if only what to avoid. In your dealings with those under your management always try and secure their respect. This can best be done by steady consistent treatment all round. Never act as if the garden you are managing was especially made for your own autocratic will and pleasure. Of course, you are responsible for the results, and must have orders obeyed. As a rule respect will gain this end more surely than fear. Gardeners' positions are becoming more onerous in many ways; more is expected from them than at one time, and changing circumstances are tending to shorten the means of acquiring them in many places. A garden manager who has about him a loyal contented staff can make matters meet and tie much better than one who has a sullen disorganised one. One way of assisting in gaining the respect of those under you is to take a sympathetic interest in their general welfare. I have no wish to be egotistical when I say that all through my own twenty-seven years' experience as a garden manager this has been one of my most pleasant duties.

Be courteous and civil to all those about the place you reside in who may not have direct dealings with you. While taking every opportunity of giving a helping hand to them in any legitimate way do nothing that would commit you in your employer's eyes. Many otherwise good garden managers fail in their dealings with those about them. Always endeavour to produce from your charge as much profit, pleasure, and privilege as is possible, and I have no fear but that in due time you will receive your reward in the shape of a good conscience, a comfortable home, and the respect of those whose gardens you have to manage.

HEREFORD FRUIT SHOW.

ON Wednesday, November 23rd, a long felt want was supplied in the purely agricultural county of Herefordshire, in the establishment, under favourable circumstances and with pronounced success, of an Apple and Pear Exhibition, to which was seasonably coupled the now fashionable and universally grown Chrysanthemum. Not that this is the first effort in Hereford in this direction, for it will be in the pleasing recollection of many of the readers of the *Journal of Horticulture* how some years ago a series of fruit exhibitions were held under the auspices of the Woolhope Club, with a view (1st) to substitute in the place of the worthless varieties in the Herefordshire orchards really good marketable produce, and (2nd) to supply typical specimens for the magnificent work, the “Herefordshire Pomona.”

The former praiseworthy object, the Exhibition last week so successfully inaugurated, hopes to continue; indeed, it surpassed the expectations of even the most sanguine, no less than 3700 dishes being staged, every portion of the large Shire Hall being filled with plates of even, clean, and well-coloured specimens; in a year, too, when we recollect the proposed International Fruit Show was postponed owing to the bad prospects of a good season in the early spring, there can be but little doubt of the Exhibition becoming a regular institution.

Surely this should be the case in a county like Hereford with its deep and rich soil, capable of supplying all Great Britain with its 27,000 acres of orcharding if only properly planted and tended. Here a remark may be added as apposite, made at the Committee luncheon by the Vice-Chairman of the Hereford County Council, that august mouthpiece of the people, and one would like to think, with its power present and prospective, the friend of the landed interest, and all sorts and conditions of men: That tenant farmers (and I may add here that my remarks, as in the case of the Exhibition I report, lead up mainly to their interests) would do well to plant such good bearers and quality fruits as the Golden Winter Pearmain (the speaker called it Prince's Pippin), despatching the best to market (more Americans, presumably!) and keeping back the “cullings” for the mill.

Apropos of cider fruit, a new departure has been made in the schedule of prizes, the number of plates being wisely restricted to twelve, which were typically represented by ten small, pretty, mostly cherry-coloured specimens of useful varieties, not only pleasant to the eye of the on-looker, but prospectively good for a twin national beverage (as in the good old days of yore), in healthy rivalry with that kingly monopolist—Hops and beer; instead of, as previously, exhibited indefinitely in large numbers of crude many-sized unwholesome nondescripts, an eyesore on the plate to all the other surroundings, as well as, possibly, something more than a doctor's bill when transmogrified in the glass or tankard.

But to come to details. As a complete list of awards and prize-takers would tax the space allotted to this report as well as the patience of the general reader, I will only allude to a few of the chief features of the Exhibition. The first object to meet the eye was the first-prize card of Messrs. Bunyard, with their grand collection (Division A, open) of 100 plates of Apples. Viewed in that splendid light in our Shire Hall (many a rosarian will well remember), which not even these nebulous November days can quite quench, the general effect was charming, and well sustained the reputation of the firm and

the county of Kent in which they were grown. This season no fruit (those grown out of doors, and shown at Hereford, were handicapped, and rightly) were especially fine (the premier single Apple, Warner's King, and Pear Pitmaston Duchess, both being under 1 lb.), but for colour notably, and symmetry and smoothness the quality throughout this collection, and indeed throughout the entire Exhibition, was wonderful.

The following varieties demand notice:—Bramley's Seedling is a heavy, good keeper, finely shown; Queen, large and fashionable, good for exhibition, but somewhat broad and coarse; Sandringham, princely in shape and of uniform size, but better for the exhibition table than elsewhere; Tyler's Seedling, brilliant colour and useful; Roundway Magnum Bonum, not very attractive, but a great and certain bearer, recommended; Stirling Castle, early culinary, very long season, difficult to beat, useful to tenant farmers for market; Court Pendu Plat, a good market Apple and great bearer; Gascoigne's Seedling, finely shown, good in colour, wants age to bear well; New Hawthornden, perhaps the largest plate staged, over 30 ozs., useful variety and recommended; and last but not least, colonial variety Bismarck, one of the most sought-after Apples of the day, grand in colour, and if allowed to hang long on the tree good for market purposes.

The collections of Pears really deserve no notice, being small in number, size and quality. The first prize was taken by the above firm. The fine collection of Pears from the Earl of Chesterfield's cordon wall, Holme Lacy, near Hereford, was much missed, and it was a leading feature in all previous exhibitions.

The second prize for 100 Apples fell to the Fruit and Rose Company, (Cranstons), with clean, smooth, but not so large fruit as came from Kent, but especially fine coloured specimens of Bismarck were shown. Their varieties of Nonpareil Apples were also numerous and well grown. Among amateurs Mr. Lee Campbell, Glewston Court, carried off most of the honours, but in some of the classes he was run very closely by Mr. Parker, gardener to Mrs. Evans, Moreton Court, Hereford, and Mr. J. Davies, Bodenham, near Leominster, and Mr. Joseph Pulley, Lower Eaton. Mr. John Watkins, Pomona Farm, Withington, near Hereford, though not a competitor, staged 270 plates of Apples second to none. One collection of the leading dessert Apples was also noticeable, the following being especially good:—Cox's Orange Pippin, Worcester Pearmain, Aromatic Russet, Wyken Pippin, Cornish Gilliflower, Duke of Devonshire, Improved Ashmead's Kernel, Gravenstein, and American Mother. Among the best culinary varieties in another group were Warner's King, with a deep red colour, most unusual with this generally extremely pale-skinned variety; New Hawthornden, also highly coloured; Peasgood's Nonesuch, very large; Potts' Seedling, Ecklinville, Cox's Pomona, Bismarck, Mère de Ménage, Beauty of Kent, King of the Pippins, and Blenheim Orange.

Special prizes were given by Messrs. H. P. Bulmer & Co., Mr. John Wathins, Mr. Charles Whiting, and Mr. John Wilson.

In Division F, open to all, prizes were given for the best packed basket, box, or barrel of culinary or dessert Apples for market, which met with the great interest the competition—which was very large—deserved. On the whole, as a first attempt the work was well done; still, the majority made the great and common mistake of placing their best specimens on the surface, while others packed their Apples on their sides. Mr. Rogers, Hereford, carried off the first prize, Mr. Phillips second, and Mr. Joseph Pullen third. The judging in this difficult class many of the public will be glad to hear was ably carried out by Mr. Grant, the great rosarian of old, who has quite recovered from his dangerous accident.

The other Judges were—Fruit, amateur and open classes, Mr. A. Barron, Chiswick, and Mr. Coleman, Eastnor Castle Gardens. Tenant farmers' classes, Mr. Sherlock, King's Acre Nurseries; and Mr. C. Whiting, Hereford. Cider and vintage fruit, Mr. E. F. Bulmer and Mr. Godwin, Hereford; and Mr. Piper, Ledbury. Chrysanthemums, Mr. Young, Abberley Hall; and Mr. Childs, Croome Court.—HEREFORDSHIRE INCUMBENT.

CHRYSANTHEMUM SHOWS.

HANLEY.—NOVEMBER 16TH AND 17TH.

THE tenth annual Show of this flourishing Society was held as usual in the Victoria Hall. This Exhibition is fast coming to the front, and does the Committee credit.

Groups of Chrysanthemums were a great feature. J. F. Maddock, Esq., Alsager, secured the leading prize in this class. Groups of plants arranged for effect were also well shown, Mr. P. Blair, Trentham, taking one of the two first prizes with a tasteful arrangement. The other first prize group exhibited by J. T. Harris, Esq., The Hayes, Stone (gardener, Mr. J. Bates), contained some very fine Calanthes. Specimen plants were well shown considering many of them are grown in a very smoky district. Messrs. Blair, J. T. Maddock and several others took first prizes.

Cut blooms were very strong this year, one of the leading growers, Mr. Bremmell, gardener at Overly, Wellington, Salop, coming out stronger here than at Birmingham, and taking all four first principal prizes in the open classes. His incurved blooms were well dressed and solid, Lord Alcester, John Lambert, and all the Queen family being splendid. In the Japanese section Vivian Morel was very fine. Messrs. Blair, Goodacre, and others took part in these classes.

Amateurs take a great pride here in making up wreaths, crosses, and buttonhole bouquets, ladies' sprays, and ladies' hand bouquets. These made quite a show in themselves. Messrs. Jenkinson, Newcastle, Pointon, and Miller secured the leading prizes in the open classes, and Messrs. W. Mass, P. Simpson, and J. Clark in the amateurs' classes.

Grapes were well shown. Mr. Harris, Stone, was first for black Grapes; Mr. Breeze, Congleton, second; and Mr. Gilman, Ingestre, third. In the class for white Grapes Mr. Breeze was first with some very fine Muscats; Mr. John Wilks, second, and Mr. Gilman, third.

All the amateur classes were well filled with good plants and cut blooms.

NEATH, SOUTH WALES.—NOVEMBER 17TH.

No Show being held in Swansea this year, Neath, about eight miles distant, is the only exhibition in that district, and although but the second attempt, the Committee and Secretary must be congratulated on producing a very fine display. It was held in the Gwyn Hall.

The cut blooms, as usual, were the greatest attraction. In the open class Miss Talbot, Penrice Castle, took the first prize with some very fine flowers. Among the incurved Lord Alcester, John Lambert, Queen of England, and Empress of India were very fine, with Vivian Morel in the Japanese. Second, the Earl of Lisburne. For twelve incurved, distinct, the Earl of Lisburne took the lead, Mr. Milner, gardener to Miss Talbot, taking second prize. For twelve Japanese, distinct, Miss Talbot was first with very fine blooms. Second, J. H. Rogers, Esq., Llanelly. Third, Earl of Lisburne.

For trained specimens, open to all, H. H. Price, Esq., Brynglas, and Mr. W. Farrant took the leading prizes with some very fair specimens, a great improvement on last year.

Amateur classes were strong and numerous. Messrs. G. Whittington, T. C. James, H. H. Price, J. F. Davies, M. Morgan, Ritson, G. Sims, and Mrs. Gwyne, being some of the principal prizetakers in these classes.

Groups of Chrysanthemums arranged for effect.—First, Mrs. Gwyne. Second, Mr. H. Price. Ladies' shoulder sprays were very pretty.—First, Mr. G. Davidson. Second, Mr. W. Farrant. Third, Mrs. Gwyne.

Mr. Milner had the best bloom in the Show, a good specimen of John Lambert. For best three blooms of Vivian Morel, J. H. Rogers, Esq., was first, and the Earl of Lisburne second. The Earl of Lisburne took first prize for three best blooms of Mrs. Clibran, a new incurved variety.

J. H. Rogers, Esq., Llanelly, took first for a collection of fruit, showing some good Grapes; second, Mrs. Palmer, Rehola. The trade exhibits of Messrs. Clibran, Manchester, Mr. Treseder, Cardiff, Mr. Farrant, Swansea, Messrs. Parsons & Co., of Swansea, Mr. John Lleyllyn, Neath, and Messrs. Morris Brothers, were very fine.

Collections of vegetables were very fine. Mr. Milner, Penrice Castle, staged two fine collections, taking first in the special and first in the Societies' classes. Mrs. Gwyne was second, and Mrs. Palmer, Rehola, third.

HEREFORD.

HELD in connection with the great Fruit Show (see page 490), the show of Chrysanthemums was of an average character, the date being somewhat too late to obtain fine blooms. "The best group of plants in pots arranged for effect," for which a five-guinea cup was offered, only brought forward two exhibitors, viz., With's Patent Plant Food Co. and J. Pulley, Esq. (gardener, Mr. William) the cup going to the former whose flowers were of good size and well grown. The following varieties were noteworthy: Louis Boehmer, E. Molyneux, Coronet, Avalanche, and Etoile de Lyon. The flowers in the second prize collection were much smaller but of better form, especially the incurved varieties.

The class for thirty-six blooms (eighteen incurved and eighteen Japanese) was well contested. Mr. R. W. D. Harley Brampton, Brian Castle, was placed first with particularly good blooms of Japanese: Avalanche, Boule d'Or, W. W. Coles, Madame Bernard, Stanstead White, Mdle. M. Hoste, Ralph Brocklebank, Etoile de Lyon, and Louis Boehmer; and of incurved, Queen of England, Lady Dorothy, Lord Alcester, John Doughty, Violet Tomlin, Golden Empress, Jardin des Plantes, Jeanne d'Arc, and others were good. C. Lee Campbell, Esq., obtained the second place, and With's Patent Plant Food Company third, with flowers much smaller but of good form.

In the class for twelve blooms of Japanese, open to Herefordshire only, the first prize was taken by W. J. Harley, Esq. The following were very fine: Vivian Morel, Madame Bernard, Ralph Brocklebank, Louis Boehmer, Stanstead White, Lilian Bird, and Boule d'Or. The second prize was adjudged to Joseph Pulley, Esq., who had some fine flowers of Etoile de Lyon, and Delaux. In the corresponding class for twelve incurved Mr. R. W. D. Harley was again successful, the blooms of Queen of England, Violet Tomlin, and John Lambert being very fine. Mr. J. Pulley was second, and the Right Hon. Lord Rodney third.

In the class for reflexed the first prize was awarded to With's Patent Plant Food Company with good flowers; and for Anemone flowered Mr. C. Lee Campbell was first. Plants in pots were scarcely so good as they might have been.

BARFORD.

UNDER the patronage of C. A. Smith-Ryland, Esq., a Chrysanthemum Show was held at Barford, near Warwick, on Wednesday, the 23rd inst. Owing to the lateness of the fixture the entries in some classes were not very numerous, but the quality throughout was very good, and the beginning made this year will doubtless develop into a fine annual Show. Mr. Dancer, gardener to Lady Guendlen Little,

secured the first prize for a group of Chrysanthemums, and also for a single specimen plant.

Mr. H. Dunkin, gardener to the Earl of Warwick, won the premier award in the cut bloom classes for twelve incurved, and also for a similar number of Japanese. The former were well moulded blooms, and the latter, though not particularly large, were fresh and finely coloured. Louis Boehmer, Etoile de Lyon, and W. W. Coles were the best among them. Mr. J. Garner, gardener to E. Cassell Esq., Compton Verney, was second in the same classes, as well as for six Japanese blooms. Mr. Finch, gardener to W. R. Mann, Esq., secured first honours for six Japanese, and also for the same number of incurved blooms.

Mr. J. Kitley, Castle Nursery, Warwick, scored an easy victory for two bunches of black Grapes, staging Gros Colman, good in bunch, very fine in berry, and superb in colour—a truly meritorious exhibit, worthy of being staged at any show.

In the Apple and Pear classes Mr. Liney, gardener to W. W. Low, Esq., Wellesbourne House, Warwick, was the principal prizetaker. The same exhibitor, as well as Mr. A. D. Christie, gardener to the Marquis of Hertford, Ragley Hall, Alcester, staged fine collections of Apples and Pears in the non-competing classes; and Mr. R. Jones, gardener at Barford House, had several good stands of Chrysanthemums.

A very meritorious group of miscellaneous plants was contributed by Mr. F. Perkins of Leamington, who also exhibited a shower bouquet, a table ornament worked out in yellow Chrysanthemums and Privet berries, and a harp made of grey Lichen embossed with white Chrysanthemums.



HARDY FRUIT GARDEN.

Fruit Room.—Look frequently and carefully over all the stored fruit, seeing that none becomes over-ripe, or when exhibiting the least symptoms of decay remains too long in company with sound specimens. Those exhibiting a tendency to decay, also showing a specked appearance that is likely to spread, lay aside for immediate use. The general conditions to be maintained in the fruit room are a cool and dry atmosphere, but safety from frost, perfect cleanliness throughout, ventilating occasionally, and total darkness. Pears which do not readily ripen under these conditions may be hastened, a few at a time, by placing them in a higher temperature. This method also improves the flavour. They may be returned to cooler quarters when ripened if not wanted at once.

Pruning Apples and Pears.—Where perfectly balanced growth exists pruning is not required, but it is seldom that such a state of things exists. Trained trees of every form need regular attention at various periods of the year to maintain them in fruitful conditions. The system of summer pruning, resorted to with restricted trees to curb strong growths and concentrate the energies of the sap in the formation and feeding of fruit buds, must now have its last stage completed by cutting back to one or two buds the main wood growth, which originally started in the early summer from the midst of the fruiting spurs. These growths under a proper system of management would be duly stopped in June or July at the fourth or fifth leaf, and probably stopped again when the same number of leaves had been produced on a fresh break. These shoots must now be cut away to within one or two buds of their base. If well situated and have been fed by large leaves they may already be fruit buds, but if not they will have a chance of becoming such another season. Another result of summer stopping will now be seen in the plump character of buds produced in former years. Short shoots of the current year's production with a prominent terminal bud may be retained. Spur-pruning is necessary when such become crowded, ill-placed, and obstruct light and air from each other.

Plums and Cherries.—On walls, Plums and dessert Cherries are grown partly on the spur system and partly on the plan of laying in well-placed young wood, which will in the course of the second year form fruit buds. A constant renewal of growth can thus be kept up and old worn-out portions of the trees removed. The foreright shoots produced from the spurs are shortened in the summer to 3 inches, further reducing them now to one bud; or if the portions left at the summer pruning plump up all their buds they may be left full length. If large spaces are left bare on the walls by the removal of old and exhausted branches it may be necessary to unfasten the trees and re-arrange the shoots. All the old bearing wood must be cut out of Morello Cherries, nailing in sufficient of the current year's growth to take its place, fruit being freely produced on this the following season. Orchard trees, after they have been formed into permanent shape, need little or no pruning, Cherries especially, but Plums may be occasionally gone over to remove crowded branches, also misplaced wood and weak spray. Cut out dead wood and remove suckers from the roots of Plum trees.

Gooseberries and Currants.—The pruning of Gooseberries may be carried out now or later. The majority of cultivators, however, defer it until spring, when there is less chance of the buds being destroyed by bullfinches, sparrows, and other birds. There are ways and means of

checking the birds, one of the best being thoroughly dusting the trees with lime, or soot and lime, when damp. In pruning Gooseberry bushes a combination of spur-pruning and retaining young wood is adopted with good results. Overcrowding must be avoided, or the fruit will be small and poor. Allow no suckers to grow from the underground stems. Very gross shoots remove entirely. Grown on walls and trellises the Gooseberry is then subjected to more restriction. *main stems*

trained at about 8 inches apart, and the annual shoots from these summer pruned and shortened in winter to one bud or so, forming spurs. Red and White Currants on walls are trained and treated in the same way, also in the open as bushes, no other system of pruning answering so well for these as spur-pruning. Black Currants are treated differently, the best bunches of fruit invariably being formed on strong young growths of the previous year. Pruning these, then, resolves itself into cutting out old bearing wood now, and leaving young growth disposed at moderate distances apart.

Peaches, Nectarines, and Apricots.—The old bearing shoots may now be pruned out, leaving the final pruning and thinning out until February, when the trees are re-arranged and nailed on the walls. The trees are best partly unfastened now, leaving the young wood free, so that the current year's shoots, which will be the fruit-bearing wood next season, can be exposed to ensure thorough ripening.

Figs.—Before severe frosts occur Fig trees must have some protection, either by fastening mats in front of trees on walls, or by laying dry bracken over the branches. Another plan is to unfasten the trees, tie the branches together, and protect the whole bundle.

Vines.—Outdoor Vines may be pruned. The simplest way of training them on walls is to carry horizontal growths right and left of the main stem as far as space allows, and from these train upright growths 2 feet apart. Spur the lateral growth on these back yearly to a few prominent buds, from which a selection can be made for bearing. When the spurs attain some age the lateral growths thus becoming weak, renew the upright growths by encouraging strong young canes from their base.

Raspberries.—Cut out all the old bearing wood closely to the ground. If grown in clumps each batch of canes being tied to a strong stake, the number of canes may be divided, shortening them at different lengths. This method produces a more even distribution of fruit during the summer, and adds to the better appearance of the bushes. When trained in lines to wires some canes ought to be shortened to the lower length of wire, the rest to the topmost wire, the whole of them being evenly distributed.

FRUIT FORCING.

Vines.—*Earliest House.*—The Vines started early in November to supply ripe Grapes in March and April require the temperature increased to 60° at night after the buds break, gradually increasing so as to have it 60° to 65° at night when they are in leaf, 65° by day in severe weather, and 70° to 75° by artificial means when mild. Moderate ventilation should be given in mild weather, and early, but without lowering the temperature, so as to effect a change of air, allowing an advance of 10° to 15° from sun heat, and closing at midday or soon after. It is a good plan to admit a little air at 70° under any circumstances, to allow the pent-up moisture to escape and entirely displace the vitiated atmosphere by fresh, but with a rising temperature, keeping at 80° to 85° from sun heat, and closing so as to gain 5° rather than lose any benefit of the sun's heat. In sharp weather enough air will gain admittance by the laps of the glass without admitting any through the ventilators; but modern structures are so much improved in close fitting lights and large panes of glass that it is necessary to admit air when the sun is powerful and the external air keen, and the thing to aim at is a sweet atmosphere without giving a check. Tie the Vines in position as soon as growth has well commenced, and before the shoots are so long as to be liable to be damaged in the process. Add fermenting materials to the bed, so as to maintain the heat about the pots at 70° to 75°. These will give out a genial moisture and some ammonia, and are far better than evaporating troughs kept charged with the drainage of stables or cowhouses, or guano water, 1 lb. to 20 gallons of water. The house requires sprinkling with water two or three times a day in bright weather, avoiding a very moist and stagnant atmosphere. Disbudding need not be practised until the bunches show in the joints of the shoots, the extra foliage encouraging the formation of roots, and the superfluous growths being gradually removed the sap will be diverted into and strengthen those which are left.

Houses to Afford Grapes in May.—The Vines to supply Grapes in May should be well established in inside borders, and have ripened the growth early so as to allow of their being pruned and given a few weeks' rest before starting, which must not be further delayed to have fruit ripe at the time named. The outside border, if any, should have the needful protection from frost, a few inches thickness of dry leaves, with a little litter sufficing to prevent the soil being chilled by cold rains and snow. If the roots of the Vines are outside the border should be covered with two-thirds of leaves to one of stable litter, mixed, and moistened so as to promote fermentation, and give a mild, lasting warmth. This must be added to from time to time, removing some of the spent material, so as to maintain its warmth through the winter, or it does more harm than good. The inside borders should be brought into a thoroughly moist condition by applying tepid water, and in the case of weakly Vines supply liquid manure at a temperature of 80°. Start with a night temperature of 55° and 65° by day, unless the weather is severe, when 55° will suffice until the buds commence swelling, but young Vines will require the higher temperature to induce them to start

promptly. If a bed of leaves and stable litter can be placed on the floor of the house, and turned daily, the moisture and warmth will contribute to a good break, and save fuel. Maintain rather a moist atmosphere by syringing the Vines two or three times a day. The rods of young Vines should be depressed to a horizontal line, or below it, to insure the regular breaking of the buds.

Succession House.—The Vines that are to be started at the new year to afford ripe Grapes in June will have been pruned some weeks back and kept cool and dry, but if it has been delayed it should be attended to at once, dressing the cuts with knotting or French polish. The latter stops bleeding, but the house should be kept cool so as to cause the sap to recede rather than flow with the warmth. Dress the Vines after thoroughly cleansing the house, and supply a top-dressing of loam, with some enriching material, after removing the loose surface soil. Midseason Vines from which the Grapes have been cut should be pruned. If any Grapes are still hanging they may be cut and placed in bottles of clear rain water in a cool dry room, where they will keep much better than on the Vines, especially where there are plants in the house, and air cannot be freely admitted on their account. It is a decided advantage to prune the Vines directly the leaves have fallen, as it secures to them a long period of rest, and any circulation of the sap is concentrated on the primary buds, so that they start promptly at the proper time. In pruning adhere to the practice that has proved satisfactory. Vines in good condition will usually give sufficiently large bunches if pruned to one, or at most two eyes, and bunches of 1 lb. to 2 lbs. weight are generally more in demand for home use than larger, as it is essential that the table be supplied with fresh fruit. If larger bunches are required, or the Vines from weakness do not afford bunches so large as desired, leave more growth, only take care to select sound, round, well developed buds on firm well-ripened wood. Dress the Vines, merely removing the loose bark, cleanse the house thoroughly, and put everything into proper order, so that there need be no hurry and badly performed work at starting time. Light and cleanliness are important factors in Grape cultivation.

Late Houses.—Every precaution should be taken against damp. The weather has been very unfavourable to the keeping of thin-skinned Grapes, and still continues to be disastrous to such as have to be kept in houses that have flat and leaky roofs. Thin-skinned Grapes are much better cut and bottled, especially where there are plants in the house, as they keep capitally in any spare room that is cool and dry, it only being necessary to exclude frost and look the Grapes over occasionally for the removal of decayed berries.

Late Muscats require a warmer and drier atmosphere than other kinds of Grapes, the temperature needing to be kept at 50°, and the atmosphere not allowed to become stagnant, but be freely ventilated whenever the weather is favourable. When the weather is dull and damp gentle warmth in the hot-water pipes will be necessary to keep the atmosphere moving and expel the damp, taking care not to allow the temperature to be raised by natural means without giving air, otherwise the moisture will be condensed on the cooler surfaces of the Grapes. Remove all leaves as they become ripe, and strip the Vines of any as yet green laterals, but allow the main leaves to fall naturally. All the thick-skinned varieties are best allowed to remain on the Vines until the new year, as they improve in quality by maturing perfectly on the Vines, especially those having an earthy flavour, as Gros Colman. Sufficient fire heat to maintain a temperature of 40° to 45° is essential, closing the house in damp weather, and secure as far as possible a dry, cool atmosphere and equable temperature.

KITCHEN GARDEN.

Forcing Asparagus.—In but few instances are permanent beds, with sunk pits and pigeon-holed walls between, available for forcing, the usual practice being to lift the roots and force them as required. To be certain of good early produce, ready say for Christmas, the start should be made at once, anything in the shape of hard forcing having an extremely weakening effect upon Asparagus. A dry heat is especially objectionable, though if a fairly deep heated pit can be had this will be found admirably adapted for the purpose. In this place a moderately deep hotbed, largely composed of leaves, or stable manure if this only is available, taking care to well prepare the latter by previously fermenting and turning it two or three times, a violent bottom heat being liable to cook the roots. On the surface of the bed spread about 4 inches, or rather more, of rich moist soil, and if there are no signs of the over-heating place the Asparagus roots on this at once. The latter should be fairly strong, the oldest or most nearly exhausted bed being broken up for the purpose of procuring the requisite quantity of roots. Take every care of these, breaking them needlessly and unduly exposing to cold dry winds being most unwise. Pack them closely together, two or three lights being none too many at one time, and then cover with 4 inches of fine rich soil. It is a mistake to use poor dry soil, and but little of that. Let the roots have some rich moist soil to support them, fresh root fibres soon forming in this, and also a sufficient covering of it to ensure a good length of blanched stem before the shoots are cut or twisted off. Keep a gentle heat in the pipes, and also cover the lights with mats. Asparagus can also be forced readily enough in ordinary frames on mild hotbeds, the treatment being much as advised in the case of pits. Beginners are warned that forced roots are of no further value, and it is therefore most unwise to break up a permanent bed unless it can well be spared. Where Asparagus is regularly and systematically forced an old bed is broken up every winter and a new one formed in the spring to eventually take the place of those destroyed.

The Mushroom House.—Whilst mild weather lasts little or no

fire heat should be turned on to the Mushroom house. Too much heat weakens the beds, and so also do constant daily syringings applied to counteract the injurious effect of fire heat. A temperature of from 50° to 55° answers well for Mushrooms, more especially when the beds are in full bearing. If it is desirable that late spawned beds should be hastened somewhat then may the heat be increased another 5° or 10° with advantage. Supposing fire heat has been very sparingly applied if at all hitherto, then there has been no necessity for repeated dampings and syringings. When fire heat dries the floor and the walls these ought to be damped daily, a damp rather than a dry atmosphere being the most favourable to the production of succulent Mushrooms in quantity. If the beds are syringed daily these are almost certain to become too wet and cold, very many of the tiny Mushrooms that show turning brown, softening and failing to make any further progress. Wait till the beds are moderately dry, or till the best part of the first crop has been cleared off, then remove the mulching material and give a gentle yet thorough watering with moderately hot soft water, slightly impregnated with salt, 1 oz. of the latter being enough for each gallon of water. Return the mulching, adding a little fresh strawy litter if needed, and wait for results. Never be in a hurry to break up what may appear to be a failure. If such beds are very dry six weeks after spawning, then give a gentle watering, otherwise let them alone. It cannot be too often pointed out how unwise it is to cut Mushrooms, leaving the stumps in the bed to decay and spread a destructive mould or fungus all round. Twist single Mushrooms clean out, and remove large clusters with the roots in a mass, filling up the holes thus caused with fresh loam. Thus treated the beds remain productive much longer than otherwise would be the case, and there is no sacrifice in removing large clusters at one time, cooks making good use of buttons as well as other sizes of Mushrooms.

Forming Fresh Mushroom Beds.—Beds formed now will most probably yield very acceptable crops next spring, if not earlier. Well prepare the material by frequent turnings and carefully ward off heavy rains or snow, an excess of moisture in the manure not being easily got rid of at this time of year, and the steam in over-moist beds proves fatal to any spawn inserted in it. Form the beds rather deeper than usual, or say fully 18 inches deep at the back with a slight fall to the front, and spawn directly the heat declines to about 85°. If there is any risk of over-heating delay soiling over for a few days, and should there be much steam in the bed let this escape through deep holes made at short intervals over the bed. Oak leaves being plentiful, and horse droppings somewhat scarce, form a solid bed 3 feet in depth of the former, and on this place a layer of prepared droppings 6 inches deep. Make the latter firm and spawn similarly to beds formed wholly of manure, soiling over and other details being the same. The leaves will generate a gentle and sweet heat, and a good crop of Mushrooms most probably be had in due course. Hotbeds of leaves and manure formed under a bed that requires hastening will soon have the desired effect, and be less injurious to other beds than would be the case if extra fire heat was turned on for a similar purpose.

PLANT HOUSES.

Nepenthes.—These should not be allowed to hang too close to the glass, or they may become seriously checked when severe weather sets in. They will be safe at 18 inches or 2 feet from the roof. Do not allow these plants to suffer by an insufficient supply of water at their roots, also keep them liberally syringed. If this is not done thrips are liable to attack them at this season of the year, now that the atmosphere of the stove is kept much drier.

Cyanophyllum magnificum.—This plant is very liable to become infested with thrips, and if this is allowed the noble foliage is soon destroyed. Place the plants at the shadiest part of the house, where they can be freely syringed and a fair amount of moisture maintained. If thrips do attack the foliage dew or syringe the plants with a weak solution of tobacco water, and maintain a sharp look-out for the pest. *Sphaerogyne latifolia* requires the same treatment and care.

Sonerilas.—These charming foliage plants need care to preserve them in good condition throughout the winter. If young stock has not been prepared for this purpose place the old plants at the warmest end of the stove and water them sparingly, or they may damp. Even at this late period it is a good plan to strike a few of the growing ends of the shoots for fear any of the old plants fail.

Fittonias.—Where constant supplies of these are needed during the winter and spring for furnishing any shoots that can be spared, or stock plants that have cuttings upon them, may be taken off and rooted. These cuttings root freely if inserted thickly together in sandy soil and placed in the propagating frame in brisk heat. When well rooted the plants may be tied up in moss and a little soil, placing them in boxes to grow. By this method they can be lifted out with good balls and need not be potted; in fact, if kept moist they will last as long as if they were placed in pots.

Coleus.—Dark and distinct highly coloured tops look well in 2-inch pots for the table, also for using with moss and small Ferns at the edge of baskets and large vases that have to be kept neatly furnished with plants. They do not last long in rooms, but are attractive, and small specimens will be found very useful. The tops strike freely enough when inserted in small pots and placed on a shelf where the temperature ranges at about 60° to 65°. Give a good watering after insertion and dew the cuttings with the syringe on fine days.

Foliage Begonias.—These when grown in small pots are most useful for furnishing, and care should be taken that the stock of these plants already prepared do not damp. Keep them in an intermediate

temperature where the atmosphere is moderately dry. These plants after they become shabby by use in rooms will do for stock, providing they are cut down and kept on the dry side until they start again into growth.

Seedling Ferns.—A number of these should always be kept on hand, for they are invaluable. When once they have been used in rooms and become shabby they should be thrown away. Seedlings are raised so easily that it is a waste of room and time to recruit plants that have been seriously checked. *Adiantum cuneatum* and *Pteris* of sorts are amongst the most useful. If an easier and readier system is needed than gathering and sowing the spores in pots or pans, pieces of turf may be laid amongst established plants, and in a short time they will be covered with young Ferns. These, if the turves are placed under the plants at the present time, will be ready for pricking into pans about the end of March, and will make capital stuff for another winter. Most Fern spores grow very freely on cocoa-nut fibre refuse, and if a thin layer is placed on the stage for plants to stand upon, hundreds of seedlings can be taken up and potted. We prefer small bunches to single plants because they fill up better at the base and display a much more furnished appearance.

THE BEE-KEEPER.

APIARIAN NOTES.

PUNIC BEES.

BEING anxious for further information about these bees and what has been said about them, I made a search to find what I could about the Tunisian climate. I find that history supports "A Hallamshire Bee-keeper," for we are informed "The winters of Tunis resemble English springs," and that animals during summer become languid. In our own country bees cease to work when the temperature rises above 80°. So far, then, as I can judge, "A. H. B. K.'s" statement, that "their summer (Tunisian) is our winter," is practically true.

PUNICS DYING.

It will be remembered that the correspondent just mentioned stated, in answer to a query of mine, that old Punic bees died in or near their hives. Whether that is correct as a rule I am not prepared to say, but the phenomenon certainly occurred this year at the end of September and the beginning of October, but ceased in a week. The hives did not seem to suffer anything in the end; the bees appeared as active as ever, and the last to gather pollen. In this they were most assiduous, working late and early, though it is remarkable that it disappears when breeding has discontinued.

HONEY GATHERERS.

The successive bad seasons we have had have prevented full tests of the pure Punics, but the superiority of the crosses is now a foregone conclusion. In one case where the average surplus of honey and honeycomb were 50 lbs., a Punic stock that in April was reduced, through an accident, to a cupful of bees rallied so well, that by September it was as good as the best in the apiary. The locality where these high yields were obtained, as they were also last year, is between Loch Lomond and Ben Lomond, the only place I hear of where sealed supers of Heather honey were obtained. In my own apiary the first crossed Syrians are the best, and they were never fed. The Carniolans and crossed Punics followed closely, while pure ones varied from good to middling; but in every instance the pure and crossed were the first to enter their supers, and if spared to see a good summer in 1893 I shall be surprised if pure Punics do not prove superior.

AVERAGE YIELD OF HONEY.

I am now in possession of returns of honey yields from many places. They appear to be much alike, or on an average of 30 lbs. surplus from each hive, the highest being from crossed Punics. The Vale of Clyde appears to have fared the worst. The smoke is perhaps an agent to the low yield, as well as inclement weather.—A LANARKSHIRE BEE-KEEPER.

PUNICS SEALING HONEY.

I SHOULD be glad to know what is the experience of those who have tried first-cross Punic bees as regards the way they seal their honey. I purchased a Punic queen that had mated with another kind of drone, and found that her bees sealed the honey they collected from the Clover quite yellow, while the sealing of the honey collected at the same time by other bees was white. They were largely fed with syrup made from white sugar in the autumn, and sealed also that yellow.—C., Northumberland.

TRADE CATALOGUES RECEIVED.

Dobbie & Co., Rothesay, Scotland.—*Chrysanthemums, Roses, Fruit Trees, Dahlias, &c.*

Hogg & Wood, Coldstream & Duns, Scotland.—*Fruit and Ornamental Trees, &c.*

Thomas Laxton, Seed Grower, Bedford.—*Novelties and Choice Varieties of Seeds for 1893.*

W. Wells, The Earlswood Nurseries, Redhill.—*Chrysanthemums.*



* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Dressing Pruned Trees (R. F.)—No injury whatever will result to the Oaks if the sawn ends are made smooth and dressed with painter's knotting, and if a coat of lead coloured paint is also given the cut ends will not be conspicuous. In removing large branches it is important to make an under-cut with the saw, or the branch in falling may tear the stem of the trees. We have seen thousands of branches removed and treated in the manner suggested without any injury accruing.

Propagating *Euonymus europæus* (P. D.)—The seeds may be separated from the pulp of the berries and sown in light moderately rich soil, about half an inch deep, in the autumn or early in the spring. The seedlings will make more vigorous plants, and be longer before they become fruitful, than plants raised from cuttings of bushes that have produced fruit. The cuttings should be of the ripe young shoots, cut transversely below a joint, and be planted two-thirds their length in a border in the autumn, or soon after the leaves begin falling, making the soil firm about them.

Fungus on Carnations (W. M. M.)—The name of the fungus that usually attacks Carnations is *Helminthosporium echinulatum*, and it may be this that is infesting your plants, though the specimens you send are too dried and fragmentary for determining the point. When the fungus is established in the leaves it is most difficult to extirpate. The ammoniacal carbonate of copper solution, if applied in time might prevent the invader taking possession of the plants. For methods of preparation and application see advice under Tomatoes on page 386, issue of October 27th of the present year, also page 409, November 3rd.

Grape Vines for Unheated House (A Constant Reader)—There are no Vines suitable for growing in a house (not heated) to supply Grapes during the last three months of the year, as those are the worst months to keep Grapes in good condition, and they require absolute freedom from the damage of a stagnant atmosphere and frost. It is feasible, however, to have Grapes from an unheated house that will keep after being cut from the Vines if suspended in a cool, dry room, and supply fruit at the time required. If you can do that, namely cut and bottle the Grapes early in October, or before they are damaged by cold and wet, taking care to have them thoroughly ripe in September, you may plant the following:—Black Hamburg, Madresfield Court, and Foster's Seedling, say two of each. It would be better to heat the house.

Celery Insects (Anxious)—You ask for the name of the insect "which Celery growers are infested with." We presume you mean the plants. The maggots in the leaves are caused by a fly, *Tephritis onopordinus*, depositing eggs in them. The resulting maggots soon produce perfect insects, and two or three broods of flies may be produced in a season. The perfect fly is a little more than an eighth of an inch long and about three-eighths of an inch across the wings, body yellowish brown. The maggots of the last brood change to pupæ and rest in the ground or in rubbishy heaps, and flies emerge from them in the spring. Infested Celery refuse should be burned, and it is a good plan to trench the ground, burying the top 6 inches that contain pupæ well down to prevent the emergence of the insects. Egg deposition may be prevented by occasionally spraying the plants with a decoction of quassia mixed in a solution of softsoap, stirring in very briskly a wineglassful of petroleum to 3 or 4 gallons of the mixture and keeping it stirred during application. Maggots in the stems of Celery are caused by a fly, *Piophilus Apii*. The worm-eaten stems should be burnt and the ground trenched as above advised.

Diseased Parsnips (*R. H.*).—The specimens are cankered in much the same way as occurs in the roots of Parsley, also Carrots, and many other umbelliferous plants. The want of certain mineral soil constituents, or an excess of others, will produce the gangrene. Wet gaining access to the internal tissues enlarges the ulcers, because a fungus accompanies the decay and "eats up" the contents of the ruptured cells, leaving the attacked portion of the root brown and black on the surface. The tissues of the attacked part of the root are permeated by a mass of mycelium, evidently that of *Protomyces macroporus*, but there are no "fruits" of that or any fungus on the specimens, which may be due to the care taken in washing the roots and so obliterating the traces. The rains alone are sufficient to account for the abnormal condition of the Parsnip roots, as the prolonged and excessive moisture would tend to greater alkalinity, especially in the richer and lower portions of the ground, and so cause the ulcers on the skin and the spread of the gangrene. Wild Parsnips are subject to a similar ailment, also Hemlocks, which often have the roots much gangrened and black from the devastation of fungi. There is no remedy for the diseased roots, and the only preventive is to trench the ground, so as to bury the spores of fungi that rest in the upper layer. A change of ground is also beneficial, and a dressing of lime or gypsum would correct the soil's alkalinity.

Trapa bicornis (*Birmingham*).—You appear to think the managers of the Birmingham Show make a mistake in admitting articles for sale that are not appropriate with its objects. We have often noticed show rooms resemble bazaars, and the public after paying for admittance being tempted to buy curios and novelties of various kinds. What you send is not a bulb, and perhaps the vendors who had such a brisk sale for the curiosity described it in ignorance of its real nature. *Trapa bicornis* is a Chinese water plant, introduced to this country in 1790. The name *Trapa* is an abridgement of *calciatrapa*, the Latin name of a dangerous instrument called caltrops, furnished with four spines, which was formerly used in war to impede the progress of cavalry. *T. natans* is a curious aquatic with long brown and green roots and floating leaves, with petioles inflated into a tumour, as in the marine *Algæ*. The seed is larger than the kernel of the Filbert, with two cotyledons, one large, and the other very small, and not increasing in size during the germination. Hence Gærtner considers this plant like the *Nelumbium*, as in a sort of middle state between the *Monocotyledonæ* and *Dicotyledonæ*. The nuts are farinaceous, and are esteemed as nourishing and pectoral. The skin with the spines being removed, there is a white sweet kernel within, somewhat like a Chestnut. They are sold in the market at Venice under the name of Jesuits' Nuts. They are also much eaten in Switzerland and the south of France. Some of the canals at Versailles are covered with the plant; and Neill informs us (*Hort. Tour.*) that the nuts are sometimes served up like Chestnuts. Pliny says that the Thracians made them into bread; and Thunberg states that the seeds of *Trapa bicornis* are commonly put into broth in Japan. In this country the plant is generally kept in a cistern in the stove, and so treated was fruited by A. B. Lambert, Esq., in 1815, and specimens of the fruit sent to the Horticultural Society. *T. bicornis* is cultivated by the Chinese in marshes, and the nuts are used as food.

The Cobham Apple (*J. T., Fifeshire*).—The Apple that has been forwarded to us from your manse garden is the true Cobham. We say "true" because we have seen Apples so named that were not, but Blenheim Pippins. You rightly consider your Apple "one of the finest grown." It is indeed a valuable Apple, and we are pleased to see the good bright specimen from the north. We cite what Dr. Hogg says about this Apple in the *Fruit Manual*:—"Fruit large, ovate, handsomely and regularly formed. Skin clear yellow, tinged with greenish patches, and strewed with dark dots; on the side next the sun it is marked with a few faint streaks of crimson. Eye large and open, like that of the Blenheim Pippin, and set in a wide and plaited basin. Stalk short, deeply inserted in a round cavity, which is lined with rough russet. Flesh yellowish, tender, crisp, sugary, and juicy, with a rich and excellent flavour. A very valuable Apple, either for the dessert or culinary purposes; it is in use from November to March. This variety has all the properties of the Blenheim Pippin, and is much superior to it, keeps longer, and has the great advantage of being an early and abundant bearer. I met with this excellent Apple in the neighbourhood of Sittingbourne, in Kent, about the year 1812. The account I received of it was, that the original tree grew in the garden of a cottager of the name of Pope, at Cellar Hill, in the parish of Linstead, near Sittingbourne. It was highly prized by its owner, to whom the crop afforded a little income, and many were the unsuccessful applications of his neighbours for grafts of what became generally known as Pope's Apple. The proprietor of Pope's cottage built a row of other dwellings adjoining, in the gardens of which there were no fruit trees, and, for the sake of uniformity, he cut down Pope's Apple tree, notwithstanding the offer of 20s. a year more rent to spare it. The tree, being condemned, was cut down in 1846, at which period it was between fifty and sixty years old. The name of Cobham was given to it by Kirke, the nurseryman at Brompton." It may be added that Mr. Fairbeard, the raiser of the Champion of England Pea, obtained grafts from the old tree that was cut down, and thus secured the variety. You will not err by increasing the number of trees by establishing grafts on young stocks. This variety differs from Beauty of Hants, which is also a good Apple, and the trees bear well in a young state.

Names of Fruits.—*Notice.*—Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. In consequence of the large number of worthless Apples and Pears sent to this office to

be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing. The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. (*N. Cutter*).—1, Beurré Bosc; 2, Marie Louise; 3, Winter Nelis; 4, Glou Morceau; 5, Not known, worthless; 6, Knight's Monarch. (*A. M. M.*).—1, Comte de Flandres; 2, New Hawthornden; 3, Catshead; 4, Golden Noble; 5, Lord Suffield; 2 and 6, Probably continental varieties, and of little value in this country. (*F. J. G.*).—1, Nec Plus Meuris; 2, Worthless; 3, Swan's Egg; 4, Probably Louise Bonne; 5, Not in condition to be named; 6, Blenheim Pippin. Your specimens are very inferior. (*Henry Jones*).—Pitaston Golden Wreath is the conical Apple and Aromatic Russet the round one. (*C. H.*).—Mannington's Pearmain. (*J. H.*).—1, Cox's Pomona; 2, Kentish Fillbasket; 3, Possibly a highly coloured Prince Albert; 4, Hoary Morning. (*J. J. Craven*).—1, Brown Beurré; 2, Not known. Graft the tree with a better variety. (*J. H., Sussex*).—1, Sussex Peach; 2, Not known; probably local; of no value.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*J. R.*).—1, Begonia, probably *ricinifolia*; 2, Specimen insufficient, must have flowers; 3, *Dictyogramma japonica*; 4, *Adiantum cuneatum grandiceps*; 5, *Lastrea setigerum*; 6, *Arabis alpinus variegatus*. (*W. E.*).—1, *Polystichum aculeatum lobatum*; 2, *Lastrea filix mas*; 3, *Polystichum angulare*; 4, *Lastrea propinqua*; 5, *Polystichum angulare incisum*; 6, *Lastrea filix mas cristatum*. (*May*).—*Cupressus*, probably *Lawsoniana* (no particulars of habit given); 2, *Euonymus europæus* (Spindle Tree); 3, *Begonia nitida*; 4, *Jasminum nudiflorum*; 5, *Woodwardia radicans*; 6, Appears to be a *Goniophlebium*. Your questions will be attended to.

COVENT GARDEN MARKET.—NOVEMBER 30TH.

Trade slow, good supplies with no alteration in prices.

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beans, Kidney, per lb.	0	6	to	0	Mustard and Cress, punnet	0	2	to	0
Beet, Red, dozen	1	0	0	0	Onions, bunch	0	3	0	5
Carrots, bunch	0	4	0	0	Parsley, dozen bunches	2	0	3	0
Cauliflowers, dozen	2	0	3	0	Parsnips, dozen	1	0	0	0
Celery, bundle	1	0	1	3	Potatoes, per cwt.	2	0	5	0
Coleworts, dozen bunches	2	0	4	0	Salsify, bundle	1	0	1	6
Cucumbers, dozen	1	6	3	6	Scorzonera, bundle	1	6	0	0
Erdie, dozen	1	3	1	6	Seakale, per basket	3	0	0	0
Herbs, bunch	0	3	0	0	Shallots, per lb.	0	3	0	0
Leeks, bunch	0	2	0	0	Spinach, bushel	3	0	3	6
Lettuce, dozen	0	9	1	0	Tomatoes, per lb.	0	2	0	6
Mushrooms, punnet	0	9	1	0	Turnips, bunch	0	3	0	4

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, half sieve	1	0	to	3	Lemons, case	15	0	to	35
" Nova Scotia, per barrel	12	0	17	0	Oranges, per 100	4	0	9	0
Cobbs, Kent, per 100 lbs.	0	0	100	0	Peaches, per dozen	0	0	0	0
Grapes, per lb.	0	6	2	0	St. Michael Pines, each	3	0	6	0

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms	3	0	to	6	Orchids, per dozen blooms	3	0	to	12
Bouvardias, bunch	0	6	0	3	Pelargoniums, 12 bunches	8	0	12	0
Carnations, 12 blooms	1	0	3	0	Pelargoniums, scarlet, doz. bunches	6	0	9	0
Chrysanthemums, dozen blooms	1	6	4	0	Poinsettia, per bloom	0	4	0	9
Chrysanthemums, dozen bunches	6	0	12	0	Primula (double) 12 sprays	0	6	0	9
Eucharis, dozen	3	0	6	0	Pyrethrum doz. bunches	3	0	6	0
Gardenias, per dozen	2	0	4	0	Roses (French), per doz.	1	6	3	0
Hyacinth Roman, 12 sprays	0	9	1	0	" boxes, 100.	5	0	8	0
Lilac, white, French, per bunch	4	6	6	0	" (indoor), dozen	0	9	2	0
Lilium longiflorum 12 blooms	9	0	12	0	" Red, per doz. blooms	1	0	2	0
Lilium (var.) doz. blooms	3	0	5	0	" Tea, white, dozen	1	0	2	0
Lily of the Valley, 12 sprays	5	0	10	0	" Yellow, dozen	2	0	4	0
Maidenhair Fern, doz. behs.	4	0	6	0	Tuberose, 12 blooms	0	4	0	9
Marguerites, 12 bunches	2	0	4	0	Violets, Parme, French, per bunch	3	0	4	0
Mimosa, French, per bunch	1	0	1	6	Violets, Czar, French, per bunch	2	0	2	6
					Violets, Victoria, French, dozen bunches	1	6	2	6

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (golden) dozen	6	0	to	12	Ficus elastica, each	1	6	to	10
Begonia, per dozen	6	0	12	0	Foliage plants, var., each	2	0	10	0
Chrysanthemums, per doz.	6	0	9	0	Heliotrope, per dozen	6	0	9	0
" large plants, each	1	0	3	0	Lycopodiums, per dozen	3	0	4	0
Cupressus, large plants, each	2	0	5	0	Marguerite Daisy, dozen	6	0	12	0
Dracæna terminalis, dozen	13	0	42	0	Mignonette, per dozen	6	0	12	0
" viridis, dozen	9	0	24	0	Myrtles, dozen	6	0	9	0
Enonymus, var., dozen	6	0	18	0	Palms, in var., each	1	0	15	0
Evergreens, in var., dozen	6	0	24	0	" (specimens)	21	0	63	0
Ferns, in variety, dozen	4	0	18	0	Pelargoniums, scarlet, doz.	6	0	9	0
" (small) per hundred	6	0	8	0	Primula, single, doz. pots	4	0	6	0
					Solanums, per dozen	9	0	12	0



AN AGRICULTURAL CONFERENCE.

ON December 7th a National Agricultural Conference is to be held in London to discuss the "Agricultural Crisis," and suggest ways and means of affording relief to "Depressed Agriculturists." Preliminary meetings are being held all over the country, protection and fair trade are again to the fore, State aid is demanded in the guise of taxation of imports, help from without is demanded, but at none of the meetings does it appear that any mention has been made of the possibility of help from within, of changes in management, of contraction of the area of unprofitable crops, of the extension and improvement of every branch of agriculture wherein profit is still possible. That general sympathy is accorded to farmers in their struggle with adversity there can be no doubt, but it partakes very much of the character of that pity which is akin to contempt. Why is it that we hear so much of the stubbornness of farmers? Why is it that advice is showered upon them? It must be because there is a general feeling that while complaining loudly about the low price of cereals, farmers generally have done so little to adapt their practice to the changed condition of markets. A mighty revolution in the food supply of the globe is nearing its consummation, which must more and more reduce the arable soil of these islands. Butter, cheese, beef, mutton, pork, Apples, jam, eggs, poultry, Potatoes, and the like we ought still to be able to produce better than the foreigner; and even Wheat where the farmer picks his seed and cultivates scientifically, but on the clay the bread crops must go. This is the general opinion ably expressed recently by the *Daily Telegraph*, which well points out the folly of trying to comfort the farmer with the mirage of impossible enactments. The chemist who should teach them how to fix and utilise in manure the nitrogen gas which runs to waste from a single factory would do more for our home agriculture than mere pandering to prejudice ever can do.

The sort of conference we should like to see would be for the discussion of farm management in every possible aspect of it. The faults of home agriculture are so palpable, the possibility of reform so clear, that we would have the whole matter taken in hand, discussed point by point, and reasonable—i.e., possible, standards of excellence decided upon both in crop and stock. This would of course open up a very wide field, but not necessarily beyond control. Take sheep for example, their true place and value in farming economy should be fully explained. There are hundreds of farms where a sheep-fold is never seen. Some of our best dairy farmers say they object to sheep among their cows, because the sheep consume all the choicer herbage, and the quality of cheese or butter suffers. But this is clearly a mere matter of detail; it is in autumn and winter that sheep-folding on the pasture of all upland farms does so much good. The points are to fold so closely as to manure thoroughly, and to have the sheep off the cow pasture before free growth begins in spring, so that at turn-out time there may be a full strong growth of rich herbage. Under such management sheep are a help and not a hindrance in dairy farming. Storing the land with fertility in the most economical manner just when the cows are in the yards, there would then be an improvement both in the quantity and quality of the milk, and a proportionate improvement in both cheese and butter.

Take also dairy cows; see what inferior animals are kept, how low the milk average is, how inferior the quality of the milk. The mismanagement of cows in purely dairy farming districts is notorious. Improper and insufficient food in winter as well

as a want of shelter tell with such severity upon the cows that the farmer sustains a serious annual loss from the consequent lowness of condition. So, too, with store cattle, with pasture itself, with crops of all kinds; everywhere and in everything in ordinary farming have we evidence of mediocrity, of a want of thoroughness, arising from a combination of ignorance, carelessness, and prejudice.

If farmers had done their utmost with the land and with the animals of the farm, and yet found it impossible to achieve a reasonable measure of success, then they would be justified in making an appeal to the nation and to the legislature for State aid. The question of relief should not rest upon the possibility of growing Wheat. A man who cannot obtain at least five quarters per acre ought not to grow Wheat at all. But then if he turns to Oats would he so plough, apply manure, and sow as to get at least ten quarters, or eighty bushels an acre? We verily believe that many farmers are ignorant of the possibility of obtaining such a crop, and they are precisely the men who clamour loudest for help.

WORK ON THE HOME FARM.

A fine open November has been favourable to the clearance of root crops, that fortunately have not suffered from frost, which, though prevalent for a few nights early in autumn, did no harm, and winter is setting in so mild and misty, without heavy rain, that all winter corn should have been got in well. The rapid extension of fruit farming leads us to remind planters of the importance of planting belts for shelter when the fruit trees are planted. Austrian Pine, with Larch as nurses, is a common and very useful belt for thorough shelter. We have no better evergreen tree for shelter than this Pine; it is hardy, transplants well, is of singularly free robust growth, and is admirably adapted for planting in the most exposed situations. While advising the planting of half-standard fruit trees generally we strongly recommend dwarf bushes of Apples, Pears, and Plums for all bleak situations, because they can be so easily protected from high winds—from cold nor'easters in spring, which destroy the blossom; and high sou'-westers in autumn, which batter and shake off the fruit.

Especial attention must now be given to the ewe flock; let the feet be examined frequently for the clearance of dirt from the hoof division, the careful paring away of overgrown hoofs, and the dressing of any cases of foot-rot. Let this be done gently, with all possible care, using a small sharp knife, and avoiding such deep cuts as to cause bleeding. Very strongly do we advise the home farmer to look to this matter himself, and so make sure of kindly treatment, and of sound feet for the lambing, which will begin among forward ewes in the course of a few weeks. Feed well, taking the condition and size of the ewes as your guide in quantity of food given in troughs. Avoid an excessive use of roots now; a little sliced and mixed with trough food does good, but much is dangerous, and is to be avoided. See to this; trust no shepherd to use roots at his own discretion, and never suffer him to cut roots himself; there is by far too much risk of harm to the ewes to leave anything to chance. The master must know exactly what is given and how it is used. Keep the forward ewes altogether off folds on arable land. They should now be on pasture in a quiet sheltered spot, preferably near the home close, so as to be under close supervision.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1892. November.	Barometer at 32°, and Sea Level.	Hygrometer.		Direction of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature			
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.		
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.	
Sunday .. 20	30.007	43.5	42.5	W.	45.1	44.4	40.9	55.2	38.2	—	
Monday .. 21	30.343	34.9	34.9	N.E.	44.1	44.9	34.0	46.6	29.2	—	
Tuesday .. 22	30.380	43.9	42.9	S.E.	43.7	44.7	34.1	47.4	33.0	—	
Wednesday .. 23	30.331	43.9	42.2	E.	43.9	45.0	40.1	48.6	34.7	0.010	
Thursday .. 24	30.226	39.7	39.0	N.	43.7	44.8	37.9	44.9	36.9	0.010	
Friday .. 25	30.229	38.1	37.0	N.E.	43.4	45.8	34.6	47.6	28.3	—	
Saturday .. 26	30.206	42.8	41.4	E.	43.3	50.6	37.4	50.7	36.9	0.350	
	30.246	41.0	40.0		43.9	45.7	37.0	48.7	33.9	0.376	

REMARKS.

20th.—Rain in the small hours; fine day, sunny from noon to about 3 P.M.; a little fog in evening.
 21st.—Misty early; sunny from 9 A.M. to noon; cloudy after.
 22nd.—Overcast throughout.
 23rd.—Fine, but sunless.
 24th.—Overcast, with occasional drizzle and generally misty or foggy.
 25th.—Fair morning; foggy and damp in afternoon and evening.
 26th.—Overcast and dull morning; heavy rain from 2.30 P.M. to 5.30 P.M.; fine evening and night.

A generally mild week with no frost, except slight on grass on two nights.—G. J. SYMONS.



MOST opportunely came the notes on the above subject (page 433), and whilst thanking the contributors I should like to mention a grievance that concerns me more, and is of deeper importance than whether we shall "bunch" or show single flowers; or, as to whether we shall show distinct species or only distinct varieties. Before alluding to my grievance I may perhaps be permitted to suggest a way out of the first difficulty—i.e., whether we shall show in bunches or singly. Delphiniums, Pæonies, Phloxes, Eryngiums, and other large kinds might be effectively shown singly; but what is to become of *Aquilegia glandulosa*, *Geums montanum* and *coccineum*, *Coreopsis lanceolata*, *Papaver nudicaule* and its varieties, and a host of other beautiful flowers, dear alike to exhibitor and non-exhibitor? Might we not adopt a tube of one size—say, 1 inch or 1½ inch in diameter, for amateur classes, and a tube not exceeding 2 inches for trade growers? This would check the system of crowding a huge mass of flowers together; it would also secure a uniformity in the size of the bunches, and place each exhibitor on an equal footing.

Now as to whether species or varieties shall be shown. In my opinion the latter might with advantage be adopted, and in reply to "Devon," on the page alluded to above, I should certainly not be inclined to withhold points from a stand containing two Phloxes, two Delphiniums, or two Lilies, providing they were dissimilar in colour. We have some lovely shades of light blue amongst the Delphiniums, and also some glorious deep purples. Can we afford to "Boycott" either the one or the other? The Phloxes, too, embrace a wide range of colour, the crimson scarlets forming a great and pleasing contrast to the pure whites, and white with rose or crimson centres. Would not two varieties of Phloxes, or Delphiniums of different colours, be better than too many yellow composites?

The subject I ask your help upon is this, What terms shall we agree to use in the schedules to indicate what we require to be shown? Are we to stick to the term herbaceous, or shall we allow the term "hardy perennial" to appear, and thereby allow the few hardy flowers which are not truly herbaceous to be shown on the same stands? Carnations—and of border Carnations there are now some gems—*Antirrhinums*, *Dianthus*, and *Pinks* would then enrich our collections, and we should run no risk of disqualification. I have often been asked for a definition of the word "herbaceous," the proper definition of which, I believe, is "a perennial root that produces an annual stem." Nothing has led to so much jarring as that mystic word herbaceous. At one large and old established exhibition *Liliums* are excluded, at another all bulbous plants of every description, whilst at a third Phloxes are not allowed to appear in the collections, all because of that term herbaceous. During the present year a friend of mine wrote to the Secretary of a floral society, asking what amongst hardy flowers would not be regarded as herbaceous at their show, and he received in reply that Phloxes, *Gladioli*, and *Liliums* would disqualify. A large prize was offered at one of the most fashionable floral exhibitions of this year for a collection of herbaceous flowers. The first prize collection embraced a shrub (*Santolina*), the second prize collection contained over two dozen bunches of Carnations and Picotees, also several bunches of *Pentstemons* and *Antirrhinums*.

What shall we do to remedy all this? Will the Editor appeal

to the secretaries of the various floral exhibitions and beg of them to carefully consider the wording of their schedules? For my part I should be glad to see the word "herbaceous" expunged from every schedule and the word "perennial" substituted, then all could meet on equal terms without fear of being disqualified. I had no intention of writing to this length, but, whilst I am on the subject, may I ask if hardy perennials, grown indoors, should be allowed to take first honours over those grown out of doors? If we grow them inside, and produce flowers in June that would not naturally be in bloom outside until July or August, do we not defeat one of the main objects of our exhibition, which is, to educate the public taste, and to prove what may be done in an ordinary and natural way?—E. R. SHANKS.

[We give prominence to the above communication, because it relates to a subject of great and growing importance—the exhibition of garden flowers, and the confusion that exists in their classification as set forth in the terms of prize schedules. Having regard to the divergent views, not of exhibitors only, but of the officials of societies in respect to the meaning of the term "herbaceous," and also of the want of discrimination between species and varieties, it is quite time that the directors of shows and the framers of schedules should make a serious attempt to reduce order from chaos in setting forth as precisely as possible the kinds of flowers which they desire to invite and which to exclude. When we find such as *Liliums*, Phloxes, and *Gladioli* are not admissible in stands of "herbaceous" plants, all of which flowers are eligible, and at the same time see, as we have seen, *Antirrhinums*, Carnations, Pinks, *Pentstemons*, *Santolinas*, and even shrubby *Spiræas* and Tea Roses, admitted, and the stands containing them honoured with prizes, there is no wonder that exhibitors who comply strictly with the schedules are dissatisfied, and it is certain the public cannot be instructed by such vagaries.

The time for a reform has come, and we appeal very earnestly to committees of floral societies who wisely offer good prizes for hardy garden flowers to first endeavour to gain a clear conception of the significance of the terms "herbaceous" and "perennial," and then employ either one or the other—that is, if either of them embodies what they wish to have represented in their exhibitions, and if they do not to adopt a broader term familiar and expressive—namely, "hardy border flowers."

If prizes are offered for "hardy herbaceous plants" then all kinds that produce their growths and flowers in summer, die down in the autumn, and spring up again the following year are admissible, including bulbous plants; or, as our correspondent cites, "A plant with a perennial root that produces an annual stem" is herbaceous. It is not the nature of *Antirrhinums*, Carnations, Picotees, Pinks and other *Dianthuses*, *Pentstemons*, and others that could be named to die down in the autumn and grow from the roots in spring. They are either evergreen or semi-deciduous, and therefore not strictly eligible for the herbaceous class. Still, many persons will be of opinion that it would be hard, not to say unreasonable, to exclude them from collections of garden flowers staged in competition for prizes, seeing that they play such an important part in the adornment of gardens. They would be admissible in a class designated "hardy perennials." This is a much broader term than "herbaceous" is, and we agree with Mr. Shanks in his preference for it. But we have to remember that, without any qualification, Roses, Clematises, and various flowering shrubs would be admissible, while biennials—*Canterbury Bells*, for instance—would be excluded. We suspect there are many persons who grow hardy flowers admirably, and could show them well, would not quite know what to include and what to exclude from a "perennial" class.

We know there are persons who would not exclude any hardy flowers that render gardens beautiful from collections at shows, and there are others who would desire certain limitations. We find no fault with either view; but we do wish to see the con-

ditions for exhibiting! so clearly expressed that it would be easier for them to be comprehended than misunderstood by the majority of cultivators. We should like to know what objections can be urged against a class designated neither "herbaceous" nor "perennial," but "hardy border flowers?" This has at least the merit of simplicity, and has a good old English and very familiar ring about it. It is also more comprehensive than either of the other technical terms, and may indeed be too comprehensive. It would include annuals and flowering shrubs grown in borders; and "Why not?" some may ask. "Why exclude Sweet Peas and Tea Roses?" Others would prefer their exclusion. It would be as easy to reject or admit them by the insertion or otherwise of a proviso. A class entitled for example, "Twelve bunches of hardy border flowers, distinct" (annuals and shrubs excluded), or either one or the other, would surely be clear to all.

But while a class thus entitled would be clear enough as indicating the classes of flowers, in another respect it is most faulty, and purposely so rendered to show its incompleteness. Under such conditions a person could show as many Pinks, say, or any other kinds of flowers, as he liked, and could not be disqualified if the varieties were distinct. It is imperative that the word "kinds" be added to such a class, as "distinct kinds" means that only one variety of each is admissible in the absence of a note to the contrary, such as "a light and dark Delphinium," or a "light and dark Phlox" admissible, as suggested by Mr. Shanks. This would be more appropriate in large than small collections, on the same principle that two dishes of Peaches, Nectarines, and Plums are admissible in large collections of fruit.

Another matter ought to be clearly comprehended by exhibitors—namely, that the number of varieties mentioned in schedules must not be exceeded. Thirteen or more varieties in a class for twelve disqualifies, yet scores of stands are seen yearly which contain two or three varieties of the same kind of flower in a bunch, such as Antirrhinums and others, and all such ought to be disqualified, as many are, because not in accordance with the schedule. Matters of this kind should be made clear in the stipulations.

The dimensions of bunches should be in some way indicated for securing something like uniformity in competing collections in respect to bulk, then quality alone will have to be regarded in adjudications. Our correspondent's proposition is worthy of consideration, indeed the whole subject of his letter is worthy of thought and discussion by those of our readers who are interested in it. They are of necessity many, seeing how widely and deservedly popular have become our hardy border flowers.]

EDUCATION IN GARDENING.

(SILVER MEDAL ESSAY, BY MR. E. D. SMITH.)

SUBJECTS TO STUDY.

GARDENING in its broadest sense embraces, not only complete practical skill in all the operations connected with its pursuit, but considerable knowledge of the best known and demonstrated scientific facts bearing on horticulture in general. Besides this, it is necessary to be thoroughly acquainted with all the most important points in practical knowledge acquired by our forefathers, stored up and preserved in the valuable literature of the past. How much we owe to the past can only be gauged by those who with an educated eye can look upon the vast extent of knowledge which strenuous efforts in many directions have brought together, constituting the science of horticulture. These efforts still continue, widening the foundation on which the art of gardening stands, and it is to the results which have thus been acquired, proved to be sound, reliable, and worthy of adoption, that consideration is invited.

The search for improvement is profitable and praiseworthy. Whoever enters upon it with a laudable desire to extend his outlook, increase his power and skill as a workman, and broaden his intellect, has mounted the first step on the ladder of advancement, to the summit of which he is gradually impelled by the powerful stimulus of the knowledge already gained. To become a capable, intelligent, skilful gardener, a man cannot court too wide acquaintance with all horticultural subjects, as well as all near related lines of knowledge which have more or less paved the way,

making it smoother and easier to obtain better elucidations of numerous difficult points relating to horticulture in every phase.

In these days of compulsory elementary education it is quite fair to assume that every young man who aspires to a wide knowledge of gardening has, at least, when entering on his probationary period, acquired a moderately solid foundation of learning on which he can begin to raise a superstructure, the continued building of which will constitute an ever-increasing and ever-widening delight. It is a well-known fact that the knowledge a gardener should possess ought to be of a manifold character. The ideas, however, as to what really and fully constitutes a model gardener's education are numerous and divergent. Yet it is possible to mention a few subjects which, fully grasped, though perhaps not technically and minutely understood in every detail, would prove of immense importance to the right performance of gardening duties.

In the first place it may be well to deal briefly with a subject which has not always given to it the attention it deserves—namely, the art of spelling or orthography. Even a good elementary education does not always secure proficiency in this art. A man may be an excellent gardener, well versed in most things that pertain to his profession, remarkably successful as an exhibitor, grower, or probably judge of others' produce, yet a deficiency in his spelling powers sadly stains his escutcheon of success when he is obliged to commit to paper views and opinions, or give a clear exposition in writing of some of his successful methods of culture. Therefore let correct orthography be one of the first aims of every gardener when aspiring to an intellectual grasp of his profession allied to practical knowledge.

Next in importance to the last named acquirement is that of obtaining at least a brief elementary knowledge of English grammar. Perhaps its importance may not have been fully considered when at school, where of course the parts of speech were first learnt, but not sufficiently grounded in the pupil so as to carry him safely and decently through when expressing his thoughts and ideas in writing.

Coming now to matters that directly bear on horticultural knowledge, mention is first made of botany, which should take a leading place as a subject to study. Botany implies a knowledge of plants. "It is," says Leo H. Grindon in his "British and Garden Botany," "the science which considers the nature of plants—how they are constructed, what they are composed of, the circumstances of their life and growth, what they are good for, the countries and places they inhabit, their various and charming beauty, along with many other curious and interesting facts, such as render the study of it exceedingly pleasant and instructive at all seasons of the year and wherever we may go." It will be seen, therefore, that it is important to know as much as possible of such an important science to a gardener as that of botany.

The study of geology, which teaches all about the interior structure of the earth, may be varied with botany. Geology is capable of rendering much assistance to the gardener, as it furnishes him with some most interesting facts of the history of the earth which it is desirable he should know. In the lesson on "Geology" in "Cassell's Popular Educator" the writer says, "The study commends itself to all, since it requires no expensive apparatus, nor yet a preparation, which all other sciences demand ere the student can enter on their practice. Young and old, gifted with observation, may at once become practical geologists; and by never passing a stone heap without an examination, or never leaving a quarry or gravel pit unsearched, they will soon lay the foundation of a geological cabinet." A wide and deep acquaintance with the subject may not be attainable, but that which can be gathered about such an interesting science is certainly worthy of attention.

Elementary chemistry is a subject of much importance to a gardener, as it teaches the nature and properties of the substances composing the crust of the earth, how they combine in certain exact proportions forming quite different substances.

Geometry may be studied with great advantage. Without its aid landscape and ornamental flower gardeners would be unable to execute much which having that knowledge they can now do with ease, dexterity, and precision. The modern system of carpet bedding calls largely upon geometrical skill in depicting designs and marking them out in well defined divisions of colour. It affords scope for many original designs and encourages the display of much ingenuity.

Passing now to the immediate subject of practical gardening, we find much that it is necessary to study which may be embraced under the general subject of the theory and practice of gardening. The propagation of plants in all their various ramifications, giving extensive and special study to those which are grown extensively in gardens, either outdoors or under glass, should form the subject of constant attention, so that definite knowledge as far as possible may be gained on every important family of plants. The most important operations in garden practice on which information may be sought from reading, are the culture of fruits, vegetables,

and flowers; the soil and its management, including draining, digging, trenching, manuring; planting, sowing, protecting, watering, and pruning. All these operations in gardening are the key-notes to success. On their proper performance at the right times and in the most intelligent manner depends largely whether success is achieved or not. Study and practice ought to be combined whenever possible, but unfortunately opportunity cannot always be had to carry out methodically a set course of study.

The management of glass houses is at the present time one of the most important features in a gardener's duties. Strict attention must be paid to acquiring all the knowledge possible on this point, as structures containing valuable plants must have continual and exact attention. Other matters which will need study are the effect of light and shade upon plants; the correct temperatures necessary to their well being; the amount of air they require, with the best means of keeping them vigorous, healthy and clean. The principles of heating by hot water must be fully understood before any attempt to manage such appliances can be sanctioned. Depending solely upon routine knowledge without comprehending the principles is the means of failures taking place, which prove mysterious because they are not understood through the fact that the causes from insufficient knowledge are not discoverable.

The above are some of the leading subjects for a gardener to study. The list is not exhaustive, but it is sufficiently extensive to enable anyone carrying it out fully and carefully by study and practice to provide himself with a vast amount of information which cannot fail to be useful. In addition to studying particular subjects as exhaustively as possible, a wide and judicious course of general reading will add much to the zest for acquiring information. If the matter selected is often outside the pale of horticultural knowledge generally, it may indirectly afford some valuable assistance to the student. Avoid light and frivolous literature of an evil tendency, but that of an instructive and edifying tone may be welcomed as a relaxation.

In gardening as in other things, there are fashions followed, and the gardener should with the aid of his horticultural periodical seek to gain as much information as he can about flowers, plants, and fruits which occupy a leading place in the public regard.

(To be continued.)

CALLA NILOTICA (?) AND OTHERS:

A FRENCH nurseryman, Monsieur Letellier, of Caen, is now offering tubers of a *Calla* under the above name at the moderate price, for a new plant, of 5 francs, or two for 9 francs. He says they were collected on the banks of the Nile, and were described to him by the collector as bearing very beautiful white and red flowers. As no *Calla* hitherto known produces flowers of more than one colour, I at first thought on reading the advertisement in the *Revue Horticole* that the plant could not be a *Calla* at all, but might be a *Nelumbium*, as *N. speciosum* has large pale rose-coloured flowers, which may be seen annually in the tropical Nymphaea house at Kew. I therefore out of curiosity sent for a tuber to see what it was, and having received it in due course it is evident that it is a *Calla*, and it is to be hoped that when it blooms during the spring of 1893 it may turn out to be a new and fine variety.

When writing a short time ago in your columns about the yellow *Calla* known as *C. Elliotti* (page 31), I ventured to describe it as a hybrid between *C. hastata* and the ordinary *C. æthiopica*, but my views were demurred to and called in question by your correspondent, "E. H. M." (page 122), who, if I remember rightly, expressed his opinion that it was a species and not a hybrid, as I had stated. Now, I have recently received an unsolicited testimony in confirmation of my opinion from a florist friend who grows a large collection of these plants, and is a most careful and accurate observer of all their points and characteristic peculiarities. This gentleman writes to say that the fact of *C. Elliotti* being a natural hybrid between *C. hastata* and *C. æthiopica* is, to his mind, clearly proved not only by its spotted leaves and the shape of its spathe, but by its being a summer bloomer, which *C. hastata* is.

It is to be hoped that the splendid golden *Calla* shown at a recent Drill Hall meeting of the R.H.S. by Mr. Whyte under the name of *C. Pentlandi* (which must be changed for classical correctness to either *Pentlandiana* or *Pentlandensis*, being the name of a place, and not of a person) will reproduce itself true from seed, as *C. Elliotti* does, and that it will before many years be available for the decoration of many greenhouses. I also venture to hope that before it is ready for distribution its name will be definitely changed from that of the residence of its fortunate introducer, which it now bears, to what should undoubtedly be its true and correct designation, namely, *Calla æthiopica aurea*, as it is admitted by all who have seen it to be merely a very fine bright golden form of the type.—BOSCOBEL.



CYPRIPEDIUM MORGANIANÆ BURFORDIENSE.

THIS fine variety attracted some attention at the Drill Hall on November 15th, when it was shown by Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, and deemed worthy of a first-class certificate. The specimen exhibited had a scape about 18 inches high, carrying one fully expanded flower, and if my memory does not fail me one or two buds. To the inexperienced eye the flower at first sight closely resembled that of the type, but on examination proved to be a decided improvement. The dorsal sepal is broad, of a light colour, suffused with a pale purplish tint, and marked with dark veins. The petals are about 3 inches in length, of a creamy white colour, and heavily spotted with chocolate. The most striking feature about this Orchid, however, is the lip. This is very large, and of a purplish red colour, forming a pleasing contrast to the other portions of the flower.—ORCHIDIST.

CATTLEYA ALEXANDRÆ.

REGARDING *Cattleya Alexandræ*, Mr. W. Watson, in the "Garden and Forest," says:—Of this I am a little suspicious, a plant of it having flowered lately at Kew—the first to flower anywhere, I believe. It is one of the *C. guttata* class, and, judged by the plant flowered here, one of the worst of them. The flower is 3 inches across, like that of *C. guttata* var. *Leopoldi*, the sepals and petals dull greenish-brown with a few reddish blotches, and the labellum rosy mauve. Of course, the Kew plant may be the worst possible variety, and the collector who pictured and described this discovery as a many-flowered beauty may not have seen anything so poor as the first flower that has opened in England. We hope not.

CYPRIPEDIUM ARTHURIANUM PULCHELLUM.

DURING the past few years Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, have introduced many charming hybrid



FIG. 66.—CYPRIPEDIUM ARTHURIANUM PULCHELLUM.

Cypripediums, and the majority of them will doubtless be extensively grown when well known. Among others, some of which have been illustrated and described in these pages, may be mentioned *C. Arthurianum pulchellum* (fig. 66). This is a hybrid between *C. insigne* Chantini and *C. Fairrieanum*. In general appearance it resembles *C. Arthurianum*, but has the addition of

some dark crimson spots in the dorsal sepal. The petals are of a dark bronzy shade, the lip being olive green. A specimen was exhibited at the meeting of the Royal Horticultural Society on November 1st, when an award of merit was accorded for it.

DISCUSSION ON APPLES.

WALTHAM ABBEY SEEDLING.

As I have not grown Dr. Harvey Apple, and have rarely met with it, I am unable to say in reply to "A. B." how far it may or may not be identical with Waltham Abbey Seedling. Those who have both can easily state their opinion. I note that Mr. Bunyard in his Apple list refers to Dr. Harvey as resembling Waltham Abbey Seedling, but he does not say that it is identical. On the other hand it is very suggestive that he does not include the latter in the list some three years old I have here. True, the variety under whatever name known is a splendid Apple, but its chief demerit in the eyes of the trade is that it is not new. I could not but remark that at the Royal Aquarium last week Waltham Abbey Seedling was especially fine in both the first and second prize collections of kitchen Apples. For general usefulness it is worth a score of such kinds as Peasgood's Nonesuch, Emperor Alexander and other showy but very soft-fleshed sorts.

NORTHERN SPY.

Mr. Bunyard said of this variety, "Of no value in this country." That is about the estimate of most who have tried to grow it; yet at the Aquarium Mr. Turton of Maiden Erlegh had a beautiful dish of it in his first prize collection of dessert varieties. It would be interesting to learn how he obtained it in such fine condition. I think it came from an ordinary bush tree on the Paradise stock, but am not certain. It was an undoubted novelty.

UNCTUOUS APPLES.

Will "G. M. S." kindly explain what he means by this term as applied to Apples? To my mind it is a horrid expression, and as fitting as would be sanctimonious. My dictionary tells me that "unctuous" signifies "fat, oily, greasy;" and although most Apples become after keeping somewhat sticky on the surface, yet under no circumstances can I admit that the term unctuous is applicable. Why, if we are to admit that Apples are fat or greasy we may in time be able to convert them into butter or margarine. I do not mind being told that some Apples are glutinous, that we all understand; but the term unctuous seems to savour so much of hypocrisy.—A. D.

BLenheim ORANGE.

SOME notes about Apples planted by our grandfathers and the crops they bear, might be of interest to your readers. The extraordinary crop of 54 bushels were gathered from an old tree of the above at Borde Hill, Sussex, this autumn. The tree, which is practically unpruned, is in excellent health. It is 35 feet high, branches extend 40 feet in diameter, and the stem measures 6 feet 10 inches in circumference 2 feet from the ground. Owing to its size a photograph of it was not very successful. A better one was got of a smaller one of the same sort from which about 30 bushels were gathered, but I am afraid not good enough for an engraving.—R. I.

NAMES OF APPLES.

I HAD the pleasure of inspecting some good samples of Apples the other day, which were the produce of trees planted ten or a dozen years ago. About these, the point I desire to note, is that scarcely any of the varieties were correctly named. If this were a singular case it would not be of much importance; but it is the third instance I have had brought to my notice. In one case every tree was cleared out for the new comers, and a curious mixture they were. How disappointing it must be for any who select kinds from among these to find when fruit is borne that have been supplied with something different from what they wanted.—B.

APPLE HOLLANDBURY.

SOME of the most attractive dishes of Apples I have seen shown this autumn were of this variety. The fruit were large, very clear in the skin, of a rich yellow on the shaded side, and a bright scarlet where more exposed. They were grown in the Avon valley, between Bradford and Bath, the soil being of brashy character. With me on clay the trees thrive admirably, but never bear heavy crops. What fruits are produced usually colour well, while the quality, when cooked, is excellent. In Essex I remember taking note of a number of trees bearing good crops in most favourable seasons, and the attractive appearance of the fruit added considerably to its market value. Both growers for market and exhibitors

ought, therefore, to give Hollandbury a good trial, and in all probability will not be disappointed with it. The season extends from November till March.—I.

THE HEREFORD SHOW.

ONE is glad to read of the Hereford Fruit Show once more, if only to set the "Herefordshire Incumbent" once again to work with his pen. How well I remember two shows held under the auspices of the Woolhope Club before the lamented death of Dr. Bull. At one of them I exhibited Apples for the first time, and actually was awarded two prizes.

A PLETHORA OF VARIETIES.

Now I read that at the Show on November 23rd Mr. John Watkins of Withington, who always runs Messrs. Bunyard so closely at the Aquarium, exhibited no less than 270 plates of Apples. Does this mean 270 distinct varieties? If so, even assuming that cider fruit was included, is it a healthy sign, if the cultivation of the Apple is to be made a national industry, to find so many varieties offered to the public? I am well aware that nurserymen propagate varieties against their better judgment, but so long as their customers demand particular sorts so long, say they, must the demand be supplied. How many varieties are grown in America? Not 270 by any means! The trade in Apples imported from America and Canada is enormous, but mostly Newtown Pippins and Baldwins, surely. Doubtless I shall get into hot water for what I am about to state as my own private opinion, and this is, that if all the nurserymen would combine, a real trades' union, and issue a catalogue comprising but six dozen varieties—say, four dozen kitchen and two dozen table, the cultivation of the Apple as a profitable industry would be considerably promoted. Naturally the list would vary somewhat in the different divisions of the country.

INFERIOR APPLES.

I am glad to find that the Editor of the *Journal of Horticulture* refuses to name Apples of inferior merit. It takes a long time to kill prejudice. There are hundreds of Apple growers all over England who have never been to a fruit show, and who consequently have never seen any fruit other than the sorts their great-grandfathers propagated. Here, in North Suffolk, the culinary Apple is Dr. Harvey; you meet with it in every orchard and garden. It is an excellent Apple, but it only lasts till January. I cannot persuade the growers for market to believe that there can be anything to beat Dr. Harvey. "He suits this district, and this district suits he, Sir; and the crop seldom fails." Another reason for this conservatism I can better understand—viz., that the shopkeepers are shy at purchasing an Apple they do not know. It is only those of us (interested in the subject) who have lived in different parts of England that know of the thousands of worthless nameless Apples that are grown—taking up the same room, equally exhausting the soil as good varieties, and not only failing to make remunerative prices, but which are not even good enough for decent cider.

THE FRUITERERS' COMPANY.

I really think that if the Fruiterers' Company would send round the country a van fitted with trays carrying good samples of our best Apples, and accompanying this van an expert to lecture and give practical advice—visiting on market days the chief centres of agriculture—more practical good would come of such a course of action than the praiseworthy efforts exercised at the last Lord Mayor's Show.

SELECTION OF APPLES.

Before putting down my pen I will give a short list of Apples which we really cannot do without.

Culinary.—Duchess of Oldenburg, Keswick Codlin, Manks Codlin, Ecklinville Seedling, Cellini, Cox's Pomona, Golden Noble, Dr. Harvey, Lord Suffield, Grenadier, New Hawthornden, Peasegood's Nonesuch, Gloria Mundi, Small's Admirable, The Queen, Beauty of Hants or Blenheim Orange (one of these), Bismarck, Lady Henniker, Lane's Prince Albert, Warner's King, Annie Elizabeth, Northern Greening, Bramley's Seedling, Wellington, and Dutch Mignonne.

Dessert.—Irish Peach, Devonshire Quarrenden, Kerry Pippin, Lady Sudeley, Margil or Ribston (one of these), Cox's Orange Pippin, American Mother, Worcester Pearmain, King of the Pippins, Cockle Pippin, Wyken Pippin, Reinette du Canada, Hubbard's Pearmain, Scarlet Nonpareil, Braddick's Nonpareil, Sturmer Pippin, Court Pendu Plat, and Duke of Devonshire.

I have purposely not mentioned some of the newer kinds, which are strongly recommended, e.g., King of Tomkins' County, the Sandringham, Okera, Gascoyne's Scarlet, &c. Moreover, when making my list I have not been forgetful of the merits of Mr. Gladstone, Gravenstein, Melon, Stirling Castle, Frogmore Prolific,

Tower of Glammis, Alfriston, Norfolk Beaufin, &c., some of which may be substituted for any of my list as more suitable for certain localities.—J. A. W.

PROPOSED METHODS OF EDUCATION.

AT very many of our Chrysanthemum shows there is a sectional department devoted to fruit. Here should be an opportunity for giving instruction by means of a lecture previously advertised. Within the charmed circle of the Royal Horticultural Society much has been learned of late years, but it is the great body of gardeners and market gardeners, farmers, tenant and yeomen, who need teaching, and as these cannot go to London shows and meetings, the Royal Horticultural Society and the Fruiterers' Company should send out local lecturers as our two great universities do in the matters of the arts, sciences, and letters.—J. A. W.

[Something of the kind suggested has been done by the Technical Education Committee of the Surrey County Council, both Mr. Alex. Dean and Mr. Edward Luckhurst having attended local shows for the purpose in question, and it would not be easy to find men who could teach more effectively. Lectures and demonstrations have also been given in gentlemen's gardens in Surrey during summer evenings this year to large and appreciative audiences. This garden teaching is directly instructive and enjoyable. There are ladies and gentlemen in all the counties who would gladly grant the use of their gardens occasionally for purposes of instruction, and undoubtedly information of great value to the inexperienced may be conveyed in them by competent practical men.]

CELLINI.

WITH me Cellini has always produced deformed, cracked fruits, and the tree much cankered. The soil is clay gravel on chalk. Now on the Oxfordshire side of the Thames Valley at Boazsdown, Whitchurch, Mr. Ashby, the gardener there, called my attention to the rich colour and clean, bright appearance of the fruit and the healthy tree. He had headed down several varieties and regrafted them with Cellini.

BEAUTY OF HANTS.

In view of its density of texture as brought to light by the drying experiments, it seems this Apple is destined to be a much sought after variety. With me it is a good, healthy grower, and seems to come into bearing several years before Blenheim Orange, which it is very much like; not quite so large, but rather more conical.—R. M., *Newbury*.

IRIS DANFORDIÆ.

THE Iris is welcome in all its forms and at all seasons. The massive blooms of the German Iris, the broad flat flowers of Kæmpfer's Iris, the beautiful blossoms of the English bulbous Irises, and the graceful Spanish varieties are all generally welcomed. No less valued are the flowers of the various species which do not come under the above named sections. Where can we find such beautiful flowers as some of the varieties of *I. reticulata*, not to speak of the singularly charming blooms of the *Oncocyclus* section—the despair of most cultivators in this climate? If these flowers, with their varied forms and hues, are prized in the flowery season, how welcome are the species which come in midwinter. Such an Iris is *I. Bakeriana*, such is *I. histrioides*, and the same applies to *I. Danfordiæ*, Mrs. Danford's Iris.

This Iris has come into flower remarkably early, having opened fully on November 23rd. My first bulb, purchased in 1890, met with an unhappy fate, a grub having destroyed it. I replaced it in 1891, but anxiously though I watched for it, no flower rewarded my pains. The bulb, however, flourished, and after its usual summer's rest the leaves began to appear about the middle of September, and after a long lapse of time from the first appearance of the bud I have one flower open and another nearly so, and am now rewarded for my long patience by the sight of this pretty little gem decorating one of my rockeries. This Iris was found by Mrs. Danford on the Sicilian Taurus, and was described so long ago as 1876 by Mr. J. G. Baker in the "Journal of Botany." It has been usually sold under the name of *I. Bornmulleri*, the name of a somewhat similar plant, but larger and even finer. This is also now in cultivation.

In its native habitat *I. Danfordiæ* grows on a sandy slope on the north side of one of the mountains in company with *Crocus vitellinus* and in close proximity to Primroses, *Scilla bifolia*, *Fritillaria aurea*, and many other plants. Although it thus appears to have a northern exposure in its native home it by no means follows that this is the most suitable in our latitude. I have my specimen planted in sandy peat on a rockery facing almost south with a point of east in the exposure. Here it seems healthy and

thriving, as it has already increased to two bulbs, each bulb only producing one flower. It grows from 2 to 4 inches in height—my plants being about 3 inches high. The cylindrical leaves are produced before the flowers, but do not attain their full length until after these are past. The flowers are bright yellow, faintly but profusely spotted with a peculiar greenish colour, not unlike that on the flowers of *I. palæstinæ*. The beard is of a darker yellow, and one noticeable point in this Iris is that the three inner segments are almost suppressed, only appearing in the form of three small filaments. It is altogether a distinct little plant and worthy of a place in the choicest collection of bulbous plants. It was exhibited by Mr. T. S. Ware at a meeting of the Floral Committee of the Royal Horticultural Society on February 10th, 1891, and well merited the award it received—a first-class certificate.

The normal flowering time of *I. Danfordiæ* in this country seems to be early in February, but in all likelihood the climatic conditions this season have hastened its flowering. I should like to hear of the experience of others this season. I may say that this Iris was through the soil in the garden of Mr. John Maxwell, Maxwelltown, Dumfries, about the same time as mine appeared; but I have not yet heard if a flower has opened. The plant is perfectly hardy, but in order to prolong the flowering and protect the blooms I have had it covered with a small handlight from the time the bud showed colour.—S. ARNOTT.

IS ROTATION IN CROPPING NECESSARY?

THE old-fashioned system of cropping in rotation has in some gardens been superseded by a less strictly defined method of putting out crops as the ground becomes ready. Formerly ground was frequently vacant, now the crop has often to wait for the ground, consequently it is necessary to depart from a rule of thumb method. Another consideration is that each gardener must be guided to a great extent by the requirements of the family for which he has to provide vegetables. Some sorts must be provided in large quantities and in untimely seasons, while other kinds can be safely allowed to occupy a comparatively small space of ground, and a failure with these is never a very serious affair. But while we should not confine ourselves to a too liberal method of rotation in cropping, it nevertheless presents no good reason why an elastic system of fitting crops one into the other should not find a prominent place in the economical working of a kitchen garden. The plan to please is that which provides the maximum of produce with the minimum of labour and of garden space.

In any method of cropping, too, note must be made of the abnormal demand for flowers which has arisen of late. It is not possible now to depend on borders or beds set apart, as of old, for flowers alone. Chrysanthemums require a fair amount of space. Then we have Arums, Eupatoriums, and other winter-flowering plants, which it is true economy to grow in the open garden. While that is so for winter flowers, spring and summer plants demand extra space. The ground that Tulips, Irises, Daffodils, and early Gladioli require is important. Then for autumn the claims of Gladioli, Montbretias, and Carnations must be considered, along with Roses, Violets, and Lily of the Valley. I find it advisable to provide for each and all of these in the vegetable quarters.

While I follow no hard and fast system of cropping, it occurs in practice that crops fall in to succeed each other with a fair amount of regularity. Thus the quarter which one year is devoted to Broccoli, Cauliflowers, and various kinds of Brassica, is the handiest for the bulk of the Pea crop in the following season. A catch crop of Lettuces, Spinach, or Turnips can be secured off the portion cropped by Cauliflowers, while the later Broccoli is off only in time for Peas. Potatoes frequently follow Peas; winter Spinach and late Turnips succeed Potatoes, and it not infrequently occurs that Celery is ready to take the place of Spinach by the time the latter is ready to be cleared away. Strawberries, as a rule, follow Potatoes. In each of these cases the labour demanded to prepare for a crop is not great.

While the above indicates the general principle I follow, it is an invariable rule that the details of cropping for the ensuing year is mapped out the previous autumn, and the ground, so far as possible, prepared accordingly. Labour and manure by this means are never misapplied. For instance, the particular quarter intended for Potatoes next year requires nothing beyond turning the soil over, and in the process breaking up all clods in the furrows. Ground intended for Strawberry planting in spring on the other hand is double dug or trenched, and a dressing of cow manure at the rate of 40 to 70 tons per acre worked in. If the ground intended for Onions can be had manure is also applied before turning up, but very generally the Onion crop follows Celery, and occasionally it is secured from between the rows of young Strawberry plants. Pea ground is never prepared until wanted, and the

preparation consists in turning out a spit of soil where each row is intended to be sown. Then the soil in this narrow trench is dug over, the Peas sown, and covered more or less deeply according to the time of year. The space between is then dug, and sown with such crops as Spinach, Lettuce, or Turnips, which invariably do best throughout the summer months when sown in freshly dug soil. The later crops of the latter named are sown as Potatoes are lifted, the ground receiving no other preparation than smoothing any irregularities. Although the ground for Cabbages and Cauliflowers cannot be too well worked before planting, I do not favour loosening soil for Broccoli. Neither do these require any manure, though on one occasion I secured a crop by applying such late in the autumn. This particular case was one in which the plants made no growth, and would have been on the whole a failure if a good dressing of manure had not been applied.

Brussels Sprouts are a most important crop with us—small hard sprouts and plenty of them. The ground for these does not require to be dug. Our crop has been grown on the same spot for ten or a dozen years, and in that time only once has the soil been loosened. The method pursued is to set out the young plants in the furrows, thus changing the exact position yearly. An occasional dressing of cow manure is spread over the ground. In some soils this practice might not succeed, but it yields us an unfailing supply of the right kind of sprouts. Leeks have become an important vegetable of late years. The best method with these is to apply a very thick dressing of cow manure to the ground some time in the spring, and to dig this in just deep enough to be out of reach of the roots of the young plants when put out in the summer. Leeks require to be grown quickly in order to be really good. To Celery the same remark applies, and manure must be used in the same way.

In all cases where manure is necessary it is the best plan to apply heavily, say at the rate of 40 tons per acre as a minimum. The after result is that several crops can be taken off the same piece of ground without adding more manure, and in many cases without doing more than loosening the soil sufficiently to allow the young plants to take root. At the same time every gardener ought to have command of fertilisers to apply as required. Superphosphate of lime is the cheapest of all, and in some soils is the only one that it is necessary to apply. A very slight dressing is all that is required to make a notable increase in the size and quality of the crop. For Cauliflowers and Lettuces in early summer, a sprinkling of sulphate of ammonia or nitrate of soda is effective and works wonders in a very short time. No winter crop should be dressed with either of these, at least if necessary they must be applied in the summer, as in the case of Celery which ought to be dressed only when planted. My plan is to get the trenches ready, the manure dug in, and lines drawn off. Then the manure is sown thinly along the surface of the bed to be planted; and in planting out the Celery the manure is sufficiently worked into the ground.

For Celery and Onions I have employed at various times superphosphates alone, and also in combination with sulphate of ammonia; the latter also alone, basic slag alone and in combination with the sulphate. The latter mixture has yielded the best results. The way it is used is to sow the slag flour first and then the sulphate, as the two when mixed run together at once. Where these manures are employed lime is not required. Lime should be employed cautiously, as it destroys the nitrogen stored in the soil. A large amount of caustic lime is present in basic slag, as much as 75 per cent. in some kinds, and this is always more than sufficient for a series of two or three crops. I have had quite as good crops from a dressing such as recommended above as from one of an expensive proprietary manure sown alongside, with the advantage of early ripening of the crop so dressed with the former. A quarter of Onions treated as above will be in first-rate condition for Cabbages. A slight loosening of the surface soil is all that is required to prepare it for the latter crop.—B.

FLORISTS' FLOWERS.

HAVING arrived at the resting period of most hardy florists' flowers, we have time to review the work and experience of the past year, and to formulate our plans for next season. We have about twelve weeks to pass quietly, and then we start again with renewed vigour and determination to excel our past efforts. I am confident that florists' flowers are coming to the fore again. I venture to say the modern school of florists will proceed on broader lines than their predecessors. Take the Carnations, for instance; the border varieties have become very popular. Anyone who saw the last Carnation exhibition at the Drill Hall could not fail to notice this. I have little doubt we shall see the competition improve yearly.

In the Auriculas, again, the popularity of the Alpine classes cannot be denied; their culture is steadily increasing, to the detriment of the show varieties. It is not enough nowadays that a plant is difficult to cultivate, or that everything must be in a subordinate position to mere form, to constitute a florist's flower.

Again, we turn to the Pansy. Who will venture to say this flower is not rising again? The recent formation of a Pansy society for London is sufficient evidence in itself to prove its increasing popularity. I am looking forward to their first exhibition, for I know the future of the society is in the hands of an energetic committee, with the assistance of Mr. G. M'Leod. But will they take up the show Pansy? I fear not, but rather the fancy varieties, with their relatives the Violas. It will be interesting to watch the movements of this society for a year or two. The modern Cactus or decorative Dahlia bids fair to eclipse the show forms in a few years, unless a reaction sets in. As garden flowers they are certainly more suitable for modern tastes and requirements.

One dare hardly draw a comparison between the Chrysanthemums of the past and those of the present. I met an old grower recently who was bemoaning public taste of the present day; he was one of the choice spirits who used to meet at the east end of London with the late Mr. Shirley Hibberd, "Daddy Broome," George Taylor, and others, in the early days of Chrysanthemum growing. He was a successful exhibitor of trained Pompons in his day.—JAMES B. RIDING.

PRICES AND QUALITY OF APPLES.

THE actual price yielded by the fruit from the trees of Domino referred to on a former occasion was 4s. 6d. per bushel. There is a difference between 4s. 6d. and 6s., but there is a still greater one between 4s. 6d. and 2s. Why do we find Apples giving a profitable return in one case but not in another? I write "profitable" advisedly, for 4s. 6d. per bushel is a paying price, and when it is considered that the fruit is gathered from trees growing in an exposed position where few others would succeed the figure reads still better.

Mr. Kruse thinks that Apple growing is only likely to pay the large grower with abundance of capital. This is a most disheartening reflection, for it means that, as in so many other things, special individual skill is to be swamped by large accumulations of wealth. But is so miserable a conclusion justifiable? Emphatically no. One of the largest fruit growers in Kent told me a few weeks ago that too many Apples were being grown, that they hardly paid now, and that in a year or two, with planting going on at its present rate, there would be gluts of fruit, and heavy losses. As illustrative of his remarks, he stated that this autumn such leading varieties as Ecklinville, Stirling Castle, and Lord Grosvenor had only brought 2s. 6d. a bushel, and at such a price it would not pay to invest any labour on pruning, manuring, and other cultural matters. So far some justification of your correspondent's conclusion. But compare it with the report of another grower; and, mark this, a grower with not a sixth of the land under his management that the other has. No. 2 has secured 6s. per bushel average price for Ecklinville, Lord Grosvenor, Stirling Castle, Mank's Codlin, and others, the varieties including the same as in the other case.

Again I ask, Why the difference? The soil may not be quite the same, despite the fact that the two farms are not far apart; but so far as my observation goes, the one is favoured just about the same as the other. We must therefore look beyond that. It is methods of culture that explain the extraordinary variation in the returns. The one grower thinks he cannot afford to give the trees any attention, notwithstanding the fact, which is well known, that his working capital is large. The other does afford it. His trees are models of admirable management. They are pruned on the simplest of all systems—that of restricting them to a few widely disposed branches, thinning-out instead of cutting back the superfluous growths. The cost for labour in this direction is small, for the work is straightforward, and is quickly done. Light and air have free access to the trees, and their growth is sturdy, firm, and well matured. Then prompt and efficacious remedies are applied for keeping insects in check. In this respect, as in others, an endeavour is made to keep abreast of the times, and every new discovery is fairly tried. Turning to the soil, its treatment is such that the 100-acre farm resembles a huge garden. Weeds and noxious growths are kept down, the surface of the soil is stirred to facilitate the ingress of air, check the too rapid evaporation of moisture, and disturb lurking grubs. Last, and perhaps most important, judicious feeding is practised. Trees that are well weathered have an increased tendency to fruitfulness from the harder and better ripened character of their growth as compared

with crowded examples, and their energies are supported by timely top-dressings. Late in winter a dressing of kainit and superphosphate, spread from the stem of the tree outward to the utmost expanse of the branches, is applied, and when the fruit is set a light sprinkling of nitrate of soda follows. Thus nourished, experiment has proved that trees will carry a much heavier and finer crop to perfection than those which—from negligence, ignorance, or false motives of economy—are left without special support. Few fruit growers on a large scale think it worth while to feed their trees systematically, but they rarely omit to grumble at low prices. Ask the farmer himself to work hard without food, and he would put you down as either a madman or a fool; but he thinks himself neither mad nor foolish in expecting his trees to do the same thing.

I come, therefore, to the point of my title, "Prices and Quality" of Apples. They are closely allied. It is useless to talk about low prices when no systematic and complete attempt is made to improve quality. Properly managed and properly fed trees will yield large and finely-coloured fruit. Neglected and badly nourished trees will yield poor examples. The one is the 4s. 6d. and 6s. per bushel tree; the other the 2s. and 2s. 6d. per bushel one. These words are not written vaguely and without knowledge. They could be supported by equally cogent cases—not hypothetical, but hard incontestable facts—if it were necessary. The lesson of excellence is written in large and bold characters on every instance of success. Whether the old-world growers recognise it or not does not matter—except to themselves. An intimate insight into the methods that are pursued and their results enable a ground to be taken up with respect to hardy fruit-growing for profit that no idle speculations as to accumulations of capital can shake. Let the big men accumulate their capital as they will, they cannot make trees bear profitable crops without managing them properly. Goulds and Astors may be possible in millionaire-ridden America, but fruit growers here need not fear them. If the smaller men will but cling tenaciously to the rock of quality they need not shrink from the encounter with others who save money by shirking good management and spend it on mere increase of numbers, for this will only multiply the bushels of poor fruit which find their way into the market, leaving the same opening for high-class fruit that there has been, is now, and always will be.—W. P. W.

ADIANTUM FARLEYENSE.

SINCE several of your correspondents are giving their experience of the above beautiful Fern, perhaps you will allow me space to describe a pair which I have here. Some five or six years since I had a magnificent specimen. It was then in a pot 36 inches in diameter. The plant measured 7 feet in diameter, and it took first prize and a medal at a local show. Finding a difficulty in accommodating it, however, I reluctantly split it into a number of pieces, which were placed in pots varying from 4 inches to those of 7 inches in diameter. The following year two of the most promising of these were selected and placed in 9-inch pots. I may state that by way of experiment one of these was potted in turfy loam and sand exclusively, the other being placed in peat, loam, leaf soil, and sand in about equal proportions. In other respects they have been treated exactly alike.

The following year they were removed to pots 12 inches in diameter, the plant growing in loam being placed in similar material; the other plant was also potted as before. Of the two plants, that growing in loam is the finer; the fronds are a little larger, and of a deeper colour when fully developed, and of more delicate rose colour when in a young state. As regards the difference in the size of the plants there is not much to choose. They are very fine, measuring a little under 5 feet each, and are greatly admired by all visitors to these gardens.

There are two things this Fern has a decided objection to—viz., water impregnated with lime and which has not been exposed to the sun, and being potted in peat of bad quality exclusively, which is often done. Where peat of really good quality cannot be obtained I would certainly use turfy loam and half-decayed leaf soil.

This Fern has a decided preference to cow manure in a liquid state. Where the water is charged with lime it should be exposed to the sun for some days before it is applied. I may say that these plants are looked over two or three times each year, and the dead and dying fronds taken away and staked out in order to give light and air to the young growth.—T. ARNOLD, Cirencester House.

I CAN fully endorse, from my own observation and cultivation, the remarks of your correspondents, in which they state how much better this beautiful Fern succeeds in a compost in which good fibry loam forms the chief ingredient; and more especially the note by "J. J. C." (page 478), for having seen the healthy plants that he grows I am able to bear him out as to the compost recommended. It is astonishing how difficult it is to try to restore plants after once getting into a bad condition, and I am certain that with careful crocking of the pots—for this is very essential to the well-being of this Fern—and loam used in

preference to peat, that success will very much sooner be attained, for in the latter the fronds never seem to get the same vigorous texture. I have for some years past grown a large plant, which is now some 4 feet across, in the early vinery, the shade in the summer being just sufficient to give the fronds a very pleasing shade of green. I never syringe it, but am never afraid of giving it copious supplies of water when necessary, for I know of no Fern that suffers so quickly if allowed for once to become dry at the roots. The compost used consists of three parts loam with all loose soil shaken out and one of good leaf mould with sufficient red sandstone broken up into small pieces and silver sand to keep the whole porous. I have had plants which have done remarkably well in an intermediate temperature.—R. P. R.

COLOUR IN VINE LEAVES.

I HAVE always been struck with the beautiful colouration the Vine foliage puts on here upon the approach of autumn; and although we try to supply the Vine's wants as far as lay in our power, yet I am not of the same opinion as Mr. Dunkin that this said colouration is due to cultural treatment alone. For a case in point. Mr. Buchanan states that with him Alicante does not colour at all, at least not in the same sense as we mean by colouring. Now with me this variety colours beautifully, the harmonious blending of crimson, green, and yellow being most beautiful. I have gathered a number this season off the sub-laterals for garnishing fruit. In the gathering I noticed that where one leaf partially covered another there the crimson colouration was void. Lady Downe's and Mrs. Pince's Black Muscat also colour very prettily. The palm, however, for very rich colouring must be awarded to Madresfield Court grafted on Black Hamburgh. The leaves of this are of a brilliant crimson colour. This season I was nearly losing a number of the primary leaves. A lady had noticed them, and had already culled a number of them, they looked so pretty for church decoration at the harvest festival.—A. YOUNG, Abberley Hall.

Mr. D. BUCHANAN (page 455) writes on the high colouration their Vine leaves have attained, and asks what can be the cause of it. Would Mr. Buchanan let us know if he has observed if the autumn tints of deciduous trees are brighter about Kippen than anywhere else he has been? The soil above the 50 feet old sea-beach about Kippen is overlying the old red sandstone formation and is very much impregnated with iron, which gives the stone a bright red colour. The soil is also reddish in colour. Where no rock is near the surface the subsoil is in most parts a reddish till. May not the iron which the soil contains have something to do with the colouration of the Vine leaves? Would Mr. Abbey say whether soil highly impregnated with iron—as I take the Kippen soil to be by its colour—gives a richer tint to maturing foliage than soil with only slight traces of it?—G. McDUGALL, Stirling.

A CORRESPONDENT writes:—"Mr. Dunkin's conclusions (page 487) in regard to colour in Vine leaves are at variance with both theory and practice. Enclosed are three leaves picked up under Vines, recently planted in two new vineries, of Gros Colman, Madresfield Court, and Alnwick Seedling. The Vine eyes were put in over a year ago, so that all have had the same treatment up to the present, yet some of the best Vines have shed their leaves without rich colouring."

[The last sentence is printed exactly as it was written; it appears somewhat incomplete, as all the leaves are highly coloured.]

DOUBLE CHINESE PRIMROSES AT LEATHERHEAD.

I FEEL it is safe to aver that there are very few places in the kingdom where double Chinese Primroses are better grown than at Leatherhead, Surrey. I confess that to me the finely flowered plants of these beautiful winter flowers, which were shown at that place last week, were a surprise. I believe these plants are shown well at Birmingham, but here they were done well also by comparatively small gardeners, who certainly do know how to grow them in first-class form.

The recent Show evidenced this, for there is in the schedule a class for six plants, and Mr. Peters, a gardener in the town, was placed first, as I learn he always is. Another gardener (Mr. Mileham) ran him very close; and Mr. Mease had capital plants also. The first-prize six plants, all being in 6-inch pots, were from 15 to 16 inches across, and very dwarf, at least not more than 7 inches in height. They carried each from eight to ten trusses, and expanded blooms in number from fifty to sixty. They were all of the pure white variety White Lady. Why, when this large-flowered sort can be grown so well, we should hear so much of the relatively poor-flowered old double white it is hard to understand.

Mr. Mileham's plants included one of the deep flesh tinted Annie Hillier, the rest being White Lady. These were as large and as fully flowered, but were not so compact as were Mr. Peters's plants. Mr. Mease's six included three plants of Marchioness of Exeter (the finest though not quite the purest double white), and the rest White Lady. They were only placed third because not quite so early, but a few weeks hence they will be fine plants. There seems to be no particular difficulty found in growing these double Primroses. They are the products of spring-rooted cuttings, grown on in pots during the summer. Allowing that each good plant will carry 100 blooms during a winter season, it is obvious that the returns for these should be considerable and very profitable, especially that of White Lady, the flowers are so large and so enduring.—A. D.



EVENTS OF THE WEEK.—The Committees of the Royal Horticultural Society will meet at the Drill Hall, James Street, S.W., on Tuesday, December 13th, and a lecture on "Winter Berry-bearing Plants" will be given at the afternoon meeting. On the same day the annual meeting of the National Rose Society, also the monthly dinner and conversazione of the Horticultural Club, will take place. Particulars are given elsewhere.

— **THE WEATHER IN LONDON.**—The weather has been of a wintry nature in the metropolis during the past week. Sunday opened bright, but very cold, with a sharp frost at night. Monday was also fine and seasonable, and a slight fall of snow occurring in the evening. On Tuesday snow fell at intervals during the day, turning to rain at night. Early on Wednesday morning slight frost was apparent, and at the time of going to press it is clear, though not quite so cold.

— **WEATHER IN THE NORTH.**—From the 30th ult. to the 6th inst. has been a week of severe weather. On the morning of the 1st the ground was covered with 5 inches of snow, which still lies but little affected by the sun. The consecutive record of frost from the last day of November is 8°, 7°, 23°, 21°, 15°, 16°, 15°. The cold on the 2nd was intense. There was a slight thaw for a few hours on Saturday, but after noon frost again set in keenly.—B. D., *S. Perthshire*.

— **GARDENERS' ROYAL BENEVOLENT INSTITUTION.**—A general meeting of the members of the Institution will be held at Simpson's, 101, Strand, in the county of Middlesex, on Tuesday, the 20th day of December, 1892, at three o'clock in the afternoon, for the purpose of passing a special resolution to change the original name of the Institution from "the Benevolent Institution for the Relief of Aged and Indigent Gardeners and their Widows" (instituted in 1838) to the name of the Gardeners' Royal Benevolent Institution, by which it is now generally known, for the purpose of registration; and also to consider and adopt alterations and additions to the rules of the Institution, recommended by the Committee of Management.—GEORGE J. INGRAM, *Secretary*.

— **HORTICULTURAL CLUB.**—The usual monthly dinner and conversazione will take place on Tuesday next at the rooms of the Club, Hotel Windsor, Victoria Street, Westminster, at six o'clock. The chair will be taken by Harry J. Veitch, Esq., Vice-Chairman of the Club. The discussion will be on growing the Chrysanthemum for exhibition, and will be opened by the Worshipful the Mayor of Taunton, Mr. W. Herbert Fowler, winner of the champion challenge cup of the National Chrysanthemum Society.

— **MEETINGS AT THE DRILL HALL.**—Allow me to cordially support the suggestion for altering the commencement of the afternoon meetings to 2.30 at least, 2 P.M. for preference. Very few of the lectures attract a good audience, and it is within my certain knowledge that many visitors leave before 3 P.M., unable to wait until that hour. If the general public came in during the afternoon in sufficient numbers to make a good meeting all would be well, but they do not.—ANOTHER FELLOW.

— **ROYAL BOTANIC SOCIETY.**—At a meeting of this Society, held on November 26th, John Birkett, Esq., F.L.S., in the chair, Mr. C. E. Anquetil, Mr. J. L. Ellis, Dr. Seton, Mr. John Thompson, Mrs. F. Adams, and Mrs. Phillips were elected Fellows of the Society. Some beautiful paintings by Miss Bertha Maguire of Chrysanthemums in the Society's conservatory were exhibited at the meeting, and highly commended by the Fellows present for their fidelity to Nature. The exhibitions and meetings of this Society will be held in the Gardens, Regent's Park, during 1893 as follows:—Spring Shows, March 22nd and April 26th; Special Floral Fête, June 21st; Evening Fête, July 5th; Musical Promenades on the Wednesdays in May, June and July, exhibition and fête days excepted. Lectures will be given on Fridays in May and June at 4 o'clock. General meetings for election of new Fellows and scientific discussions will be held on January 14th and 28th, February 11th and 25th, March 11th and 25th, April 8th and 22nd, May 13th and 27th, June 10th and 24th, July 8th and 22nd, November 11th and 25th, and December 9th. The anniversary meeting takes place on August 10th.

— **SALE OF PLANTS AT BLENHEIM PALACE.**—The whole of the contents of the greenhouses and bothouses at Blenheim Palace—plants of every kind, and no fewer than 25,000 Orchids—are to be sold by auction on December 19th and the following day by Messrs. Protheroe and Morris.

— **THE HORTICULTURAL DIRECTORY.**—This annual is now ready. It is the thirty-fourth issue, and contains 480 pages of matter of interest to gardeners, amateurs, and the great community of persons who are engaged in the industries of and in close alliance with horticulture. The changes in gardening appointments are numerous, and were recorded up to date; but, as is inevitable under the circumstances, many arrived too late to be inserted. As a handy work of reference the "Year-Book" will be found to maintain its established reputation, and the price remains as before—1s.

— **CROCUSES IN NOVEMBER.**—I think it only right that I should state that when I wrote the article on "Crocuses in November," which appeared in the Journal of 1st inst., I was not in possession of the supplementary part of Nicholson's "Dictionary of Gardening." I have since received it, and find that it gives an admirable key to the genus and descriptions of most of the recent introductions. *C. zonatus* is, I find from the above work, a native of the Cilician Mountains and Lebanon, and *C. hyemalis* of Palestine and Syria. The *C. hyemalis* in my garden is *C. h. var. Foxi*, which differs from the type in having black instead of orange anthers.—S. ARNOTT.

— **CHICAGO EXHIBITION.**—In reference to the announcement at page 483, we are informed that Mr. McIndoe is not the only English gardener who has been invited by the "Executive of the above Exhibition to exhibit at their great Show next autumn a collection of fruit similar to the one staged at the International Horticultural Exhibition held at Earl's Court, London, last August." Messrs. Goodacre, H. W. Ward, and other successful exhibitors at Earl's Court were also "specially" invited by Mr. J. M. Samuels (Chief of the Department of Horticulture, Chicago), in language identical to that quoted above, the letters of "special" invitation being dated September 17th, and received ten days later.

— **THE HEREFORD FRUIT SHOW.**—A correspondent writes:—"Your reporter, in giving the account of the Hereford Fruit Show, is slightly in error when he states Mr. Lee Campbell to have taken most of the prizes in the amateur class. For thirty dishes of Apples, open to Herefordshire, Mrs. Evans, Moreton Court, was first, the English Fruit and Rose Company second, the Right Hon. Lady Emily Foley third. For twelve dishes of Pears Mr. Lee Campbell was first, Mrs. Evans second; and for twelve dishes of Apples, best for market purposes, Mrs. Evans was first, Mr. Lee Campbell being second. For single dishes in the open class Mrs. Evans took three seconds and three thirds. I shall be obliged if you will insert this in your next issue." The word "indoor" in the report ought to have been printed "out of doors."

— **BRISBANE BOTANIC GARDEN.**—A correspondent of a daily contemporary writes that trees from all parts of the world may be seen growing luxuriantly in this beautiful garden. One may walk in the avenue of Bamboos or sit beneath the shade of a beautiful Palm, Fig tree, or majestic Fir, and take in a view which time will scarcely efface. All around are beautiful flowers of every hue and climate, and trees of almost every kind. There is the Banana tree, the Papan Apple, the Fig, Cypress, Pine, Bamboos, Palms, Bottle-tree, Gums, Eucalypti, and trees from America, India, China, England, Japan, and many other countries, always green, always beautiful. The walks are well planned, and the ferneries are pictures of loveliness. Here are noble Tree Ferns, rich Orchids, luxuriant varied climbers, Begonias, beautiful Maidenhair Ferns, Dracenas, and Lilies.

— **BIRMINGHAM GARDENERS' ASSOCIATION.**—At a meeting held on November 28th, Mr. W. Crump, Madresfield Court Gardens, Worcester, read a practical paper on "The Apple and its Culture," and exhibited specimens of 100 varieties grown at Madresfield in the experimental garden. Much useful information was given as to root-pruning and planting. Excellent samples of culinary Apples were exhibited, also several local varieties of considerable promise. Mr. Hughes, the Secretary, exhibited a very fine specimen of *Cypripedium* insigne fully 3 feet in diameter and well flowered, which had been growing in the same tub for several years, and a cultural certificate was awarded. Mr. R. W. Vertegans also obtained a similar award for *Romneya Coulteri* in bloom—a deliciously scented hardy plant. He also exhibited a dish of fruit of *Diospyros Kaki*, but not ripe enough to eat. It is not very unlike a medium-sized Tomato in form and colour.

— GARDENING APPOINTMENT.—We learn that Mr. T. Humpheys of the Royal Gardens, Kew, has been appointed Assistant Superintendent at the gardens of the Royal Horticultural Society, Chiswick.

— BRAZILIAN EXHIBITION IN PARIS.—It is stated that an Exhibition of Brazilian Orchids and other products will be opened in Paris under the superintendence of Viscount de Saint Léger in April.

— NATIONAL ROSE SOCIETY.—The annual meeting will be held, by permission of the Horticultural Club, at their rooms, Hotel Windsor, Victoria Street, on Tuesday next. The chair will be taken at three o'clock by the Very Rev. the Dean of Rochester, President of the Society.

— IMPORTATION OF POTATOES.—The Potatoes imported into the United Kingdom in the week ended November 15th, 1892, amounted to 98,170 cwt. In the corresponding month of 1891 to 21,023 cwt. According to this statement it will be seen that the importation of Potatoes, as well as fruit, is on the increase.

— DEVON AND EXETER GARDENERS' ASSOCIATION.—Messrs. R. Veitch & Son, Exeter, exhibited some well-grown Bouvardias at the last meeting of this Association, which was held on the 30th ult. Mr. J. Payne read a paper on "The Cyclamen and Bouvardia," the substance of which is printed elsewhere in the present issue.

— GARDENERS' MUTUAL IMPROVEMENT SOCIETY, WOOLTON.—The members of this Society held their usual periodical meeting in the Mechanics' Institute recently, when there was a good attendance present to hear a paper on the "Culture of the Bouvardia," by Mr. J. Glover. The essayist gave a lucid and thorough system of the cultivation in which to ensure good plants to produce at this season an abundance of flowers.

— WELL-GROWN EUCHARIS PLANTS.—The note by Mr. J. Ashton (page 483) reminded me of a fine batch of healthy and well-grown plants which I lately saw at Hill Grove, Kidderminster. I have seen the same plants during the past few years, and they were always clean and healthy and beautifully flowered. No Eucharis mite appears to trouble them. They are never plunged, but grown on the stage of the plant stove.—A. Y.

— TREE PLANTING IN IRELAND.—The Irish Land Commission, encouraged by the success of their operations in this work last year on the west coast of Ireland, have been induced greatly to extend the woodlands in that exposed district, and are importing large quantities of young forest trees from the principal nurseries in this country. Messrs. Little & Ballantyne, Carlisle, inform us that they have among others, been requested by the Board to furnish a large consignment from their nurseries, from which the plants taken last year for experiment have succeeded so well.

— COUNTRY FRUIT MARKETS.—Mr. Hiam's complaint as to "Green Gage Plums rotting on walls in the rural districts for want of a market certainly makes one's mouth water. Still there is very much of force in his reference, because country people constantly have cause for complaint that it is far easier to purchase fruit in towns where it is not grown than in the country where it is. That arises from the general tendency to send everything worth eating to some town market. But how is it that those who have Green Gage Plums that find no local market do not obtain some small shallow deal boxes, holding about 12 lbs. each of fruit, line them with tissue or blue crown paper, pack the fruit in carefully in about three layers, fix the lid securely, and then send them to some good town market for sale? In that way they would give a good return.—A. D.

— ANTIRRHINUMS FOR BEDDING.—I can fully endorse Mr. E. Molyneux's remarks on page 488; but in addition to propagating the Antirrhinum by cuttings this charming florists' flower can be most successfully treated as an annual. The seed should be sown in the early part of February in a box 4 or 5 inches deep, covering the box with a sheet of glass. In a fairly warm house the seed will not be long germinating, and a beautiful early and late autumn display is insured. Cuttings may be taken from the best. Two or three years ago I saw a beautiful bed of Snapdragons in a garden in North Kent. The seed had been sown in the open in the spring with a view of making a ribbon border. I was astonished at the result. The colours came true, sufficiently so at any rate for the purpose, and the dwarf habit, about 8 or 9 inches, very constant. The seed came in distinct colours from Messrs. Sutton & Sons of Reading, and was evidently the result of patient selection.—J. A. W.

— FRUIT PRESERVING.—We understand that, on the occasion of the Astwood Bank Chrysanthemum Society, Mr. J. Hiam, our esteemed correspondent, read an article on fruit preserving from the *Journal of Horticulture*. Mr. Hiam supplemented the article by giving particulars of his own experiments of fruit preserving by evaporation, a method which he considered might be profitably applied in times of plenty.

— A GIGANTIC CAMELLIA.—According to the "Garden and Forest" a remarkably fine Camellia is growing near the Royal castle at Pillnitz, Dresden, Germany. The tree is 24 feet high, and produces annually at least 50,000 blossoms. It is supposed to have been imported from Japan about a century and a half ago. It is planted in the open ground, but every winter a structure of boards is built around it to protect the plant from the severe cold of winter and the blooms from rains and frosts.

— A GARDENER'S INVENTION.—The problem of the steering of balloons is said to have been solved by a Hamburg gardener, who has been engaged on the problem for twelve years past, and about a year ago constructed a balloon which he claims will fulfil all the required conditions. His name (says the Berlin correspondent of the *Standard*) is Carl Theodor Geissler. We shall be glad to hear of his flying to the Chicago Exhibition, and of his getting safe home again in his aerial machine.

— MANCHESTER BOTANICAL AND HORTICULTURAL SOCIETY.—The Exhibitions of the above Society will take place next year on the following dates:—At the Town Hall, March 14th, April 25th; special grand Exhibition of Orchids and artistic groups of plants, to open on May 19th at the Gardens; Rose Show at the Gardens, July 22nd; Chrysanthemum and Hardy Fruit Show, November 21st and 22nd. The National Tulip Society's Show, and the Carnation and Picotee and Pink Society's Exhibitions will also take place at the Gardens; the dates will be fixed a little later.

— MEALY BUG ON VINES.—I shall feel much obliged if "R. R., Belfast" (page 433), will state what dressing he used on his Vines to eradicate the insects in so short a time. I have a house of Lady Downe's Seedling infected with mealy bug, and have been trying these last five years to clean it, but each year I have several bunches spoiled owing to "honeydew" settling on the berries. I may state the house is thoroughly washed each year and the Vines scraped and painted; also I have the Vines examined every ten or fourteen days, and each insect destroyed with petroleum.—NEMO.

— FLOWERS FROM THE ISLE OF WIGHT.—Those who reside in the Isle of Wight are fortunate people so far as experiencing favourable weather is concerned. Writing under the date December 1st, Mr. G. Wilkins, Castle Gardens, St. Helens, says:—"I send you a box of flowers, all of which were cut this morning from the open borders, to show the mildness of the weather in the Isle of Wight." The flowers were bright and fresh, and comprised, among others, Dahlias, Zonal and scented-leaved Pelargoniums, Fuchsias, Marguerites, Stocks, Ageratum, Antirrhinum, Schizostylis coccinea, Tea and Monthly Roses.

— THE WAKEFIELD PAXTON SOCIETY.—The subject for discussion at the recent meeting of this Society was "Orchid Collecting and Importing," and a magnificent and varied display of Orchids were placed on the table. The lecturer was Mr. R. Eichel, of the firm of Messrs. Charlesworth, Shuttleworth, & Co., Orchid Nurseries, Heaton. Mr. Eichel imparted much interesting and valuable information to his hearers. He pointed out that great sums of money are expended in sending out collectors to different parts of the world in search of Orchids, and he showed that the collectors have to be men possessed of much pluck, perseverance, patience, and self-reliance. They have also to endure great hardships and disappointments in their travels and dealings with the natives in remote regions, and great care is required in packing the plants in order that they may be preserved in the voyage to England. A number of photographs sent or brought home by the collectors tended to confirm some of the lecturer's statements. Mr. Joshua Harrap of Horbury proposed a vote of thanks to the lecturer, who, he said, is connected with one of the best firms of Orchid importers and dealers in this country. Mr. Harrap dilated on the great beauty of Orchids and their long blooming period, and expressed it as his opinion that many of the gentry in that district (Wakefield) make a mistake in not cultivating Orchids more extensively. Ever since he became an Orchid grower he had been delighted with the magnificent blooms produced by the plants. Mr. T. Garnett seconded the motion, and remarked that Orchid growing was yet in its infancy in this country.

— **SMALL HOLDINGS IN LINCOLNSHIRE.**—Mr. Henry Chaplin, M.P., who recently offered a large farm in North Lincolnshire to the Lindsey County Council for the purpose of providing small holdings, has offered to the Kesteven County Council (South Lincolnshire) a farm of 657 acres for similar purposes at Temple Bruer, near Sleaford.

— **NATIONAL AMATEUR GARDENERS' ASSOCIATION.**—The monthly meeting of this Association was held at the Memorial Hall, Farringdon Street, E.C., on Tuesday, December 6th. Mr. T. W. Sanders presided, and there was a fair attendance of members. A paper on "Irises," by Mr. E. T. Cooke, was read by the Chairman, a discussion following. As briefly announced in our last issue, the annual dinner of the Association will take place at the Holborn Restaurant on Tuesday, December 13th, the President occupying the chair. Mr. D. B. Crane, 4, Wood-view Terrace, Archway Road, Highgate, is the Hon. Secretary.

— **DEATH OF MR. JOHN DOWNIE.**—With deep regret we record the death of Mr. John Downie of Princess Street, Edinburgh, and Beechill Nursery, Murrayfield, which occurred on the 25th ult. Mr. Downie was a noted Scotch florist, and few horticulturists in Scotland were held in higher esteem. During the past half century the name of Mr. John Downie has been prominent before the horticultural world, and to his assiduity gardeners owe much. He was the originator of the now popular Fancy Pansy. Mr. Downie served his apprenticeship at Canaan House, and succeeded his father as head gardener at South Bank, Edinburgh. For many years he was a partner in the firm of Downie, Laird & Laing, and subsequently started in business by himself. We understand that the business will be carried on by his son. His remains were interred in the Grange Cemetery on the 29th ult., in the presence of many sorrowing friends.

— **BRUSSELS SPROUTS.**—All round London the green crops are in first-rate condition and wondrously plentiful; they have rarely been cleaner or in better form. Very likely we shall soon hear of Savoy Cabbages, Coleworts, and Kales being gluts. But not only have Cauliflowers, the traditional "white head" of the markets, been good and very plentiful, but they have sold very well. There has been hardly a night's check to them since they first began to turn in. After all there are none of the Brassica family that pay so well as do Brussels Sprouts. These are remarkably good and as clean as can be. The plants grown on the hard and not too rich soil in the fields produce splendid stems of sprouts, all hard, green, and delicious; not too large, yet very firm. There seems, after all, to be no Brussels Sprouts like those that are field grown; and gardeners, as a rule, would find more satisfactory results if they would plant in less rich soils.—OBSERVER.

— **WEATHER AT LIVERPOOL.**—For the past few days the weather here has been of a very wintry character. After a period of weather remarkable for its mildness, we were visited on the night of the 30th ult. with a slight fall of snow, the thermometer standing at 16°. Since then severe frosts, hailstorms, cold rain, and more snow, which commenced on Sunday, December 4th, and lasted all Monday, have been the order. The thermometer on the 2nd was 20°; 3rd, 24°; 4th, 20°.—R. P. R.

— **OBSERVATION OF THE WEATHER DURING NOVEMBER, 1892.**—The weather during the past month has been of a mild character. Dull sunless days were numerous, also plenty of fogs. The rainfall was lighter than it has been for the corresponding months of the past two years. Through the mild weather grass and other things have been growing very freely. Rain fell upon thirteen days. Maximum amount in any twenty-four hours was 0.35 inch on the 15th; minimum amount was 0.02 inch on the 7th. Total during the month, 1.75 inch against 2.36 inch of 1891.—E. WALLIS, *The Gardens, Hamels Park, Buntingford, Herts.*

— **THE WEATHER DURING NOVEMBER AT RIPLEY, YORKS.**—This was a very dull month, only two bright days occurring—i.e., 29th and 30th. The rainfall was light, but owing to the prevalence of fog and the absence of wind the ground was (from the heavy rainfall in October) in a more or less saturated state during the greater part of the month, thus not favourable to planting operations. Rain fell upon eighteen days—total, 1.68 inch, of which 0.41 fell on the 4th. Frost was registered on fourteen days. Mean reading of the barometer, 30.05°. Mean maximum temperature, 48.1°; mean minimum temperature, 32.1°. Mean temperature of month, 40.1°. Highest maximum temperature, 56° on 5th; lowest minimum temperature, 18° on the 2nd.—J. TUNNINGTON, *Ripley Castle Gardens, Yorks.*

— **RAINFALL IN SUSSEX.**—The total rainfall at Cuckfield for the past month was 3.80 inches, being 0.13 inch above the average; the heaviest fall was 0.108 inch on the 16th. Rain fell on seventeen days. The maximum temperature was 56° on the 14th; minimum, 33° on the 2nd; mean maximum, 48.2°; mean minimum, 41.2°; mean temperature, 44.70. A mild, almost sunless month, the partial shade readings being 3.4° above the average.—R. I.

— **THE WEATHER IN KIRKCUDBRIGHTSHIRE.**—The weather during the past week has generally been of a wintry nature. We had about half an inch of snow on the night of the 2nd inst., but this nearly disappeared during the following day. On the night of the 3rd about 2 inches of snow fell, and as frost has succeeded it still remains on the ground. The depth of snow is considerably greater further from the sea. To-day (5th) is bitterly cold.—S. ARNOTT.

— **INTENSE FROST IN STIRLINGSHIRE.**—The end of the past week was very wintry. In a few days as much snow has fallen on the low grounds as fell altogether in the winter of 1891. On Thursday afternoon (December 1st) the frost set in very intense, and at 4.30 the thermometer indicated 15°; it gradually fell, until at ten o'clock 22° were registered. On Friday morning at seven o'clock it was standing at 7° (25° frost); the mercury slowly rose until midday, when it stood at 20° (12° of frost). It fell very rapidly towards 3.30, and at 4 P.M. it was down to 8° (24° of frost).—C. MCDUGALL.

— **SUMMARY OF METEOROLOGICAL OBSERVATIONS AT HODSOCK PRIORY, WORKSOP, NOTTS, NOVEMBER, 1892.**—Mean temperature of month, 42°; maximum on the 14th, 57.6°; minimum on the 2nd, 24.2°; maximum in the sun on the 3rd, 98.4°; minimum on the grass on the 1st, 19.6°; mean temperature of air at 9 A.M., 41.9°; mean temperature of the soil at 1 foot deep, 44.1°. Nights below 32° in shade, seven; on the grass, sixteen. Total duration of sunshine, forty-two hours, or 16 per cent. of possible duration; we had fifteen sunless days. Total rainfall, 1.01 inch; rain fell on twelve days. Average velocity of wind, 7.1 miles per hour; velocity exceeded 400 miles on three days, and fell short of 100 miles on fifteen days. Approximate averages for November:—Mean temperature, 23°; sunshine, fifty hours; rainfall, 2.03 inches. This month was dry and dull, with very little cold weather.—JOSEPH MALLENDER.

— **THE WEATHER LAST MONTH.**—November was exceptionally dull and foggy. The sun only appeared on twelve days, and then for a short time on some of them. We had two clear days. The barometer was very changeable. The highest reading was 30.40 at 9 A.M. on the 22nd; lowest 29.59 at 9 A.M. on the 3rd. Total rainfall, 0.93 inch; which is 1.73 inch below the average for the month. The greatest daily fall was 0.20 inch on the 2nd. Rain was recorded on fourteen days. Highest shade temperature 57° on the 4th and 14th, lowest 28° on the 2nd, lowest on grass 22° on the 2nd; mean of daily maximum 49.2°; mean of daily minimum, 37.7°; mean temperature of the month, 43.4°. The wind was in a westerly direction twenty days, but was very light all through the month. The mean relative humidity as taken daily at 9 A.M. (taking saturation equal to 100) was 95.6. The garden spring ran 20 gallons per minute on the 30th. The majority of the trees were bare of leaves by the 13th.—W. H. DIVERS, *Ketton Hall Gardens, Stamford.*

— **THE CORBRIDGE AND DISTRICT GARDENERS' MUTUAL IMPROVEMENT SOCIETY.**—The monthly meeting of the above Society was held in the Town Hall on November 28th, Mr. Oliver presiding. There was a fair attendance of members. In the unavoidable absence of Mr. Charlton, Farnley Grove, a paper prepared by him upon the "Gardeners' Mutual Improvement Societies: their Aim and Object," was read by Mr. Thompson, Farnley Grange. Mr. Charlton dealt with his subject in an able manner, and made some good suggestions. He remarked that Societies might offer prizes for essays on horticultural subjects, and pointed out the advantages to be gained by so doing. He strongly advised young men to avail themselves of every opportunity to gain knowledge of the profession they adopted. A very interesting discussion followed, in which the Chairman, Mr. Bell, Mr. Brown, and Mr. Irvine especially took part. A hearty vote of thanks was passed to Mr. Charlton for his most interesting paper. A similar vote to the Chairman and reader of the paper terminated the proceedings. The Society has already received support from some of the leading gentry in the district, and several others have kindly promised subscriptions. The total sum received by the Secretary, Mr. T. Ridley, Dilston, Corbridge, is £9 1s. 6d. There are over forty members.

SENNOWE, NORFOLK.

THIS fine old estate, situated in East Norfolk about two miles from Rybergh Station, on the Norwich and Wells branch of the Great Eastern Railway, and about five miles from the town of Fakenham, is owned and occupied by B. Le Neve Foster, Esq., J.P., whose name has recently appeared before the Chrysanthemum-loving world as a successful exhibitor of cut flowers. Like many other estates in Norfolk, Sennowe is splendidly wooded, and contains some fine Oaks, Elms, and other trees. The woods alone occupy an area of about 360 acres.

One of the most prominent features of the place is a carriage drive one and a quarter mile in length. This drive is formed of red gravel obtained in the neighbourhood, and is bordered on each side by a belt of lawn 10 or 12 feet wide, at the back of which are four magnificent rows of splendidly furnished specimens of the Norway Spruce, interspersed here and there with Cupressus Lawsoniana, C. macrocarpa, Cedrus Deodara and C. atlantica, Picea insignis, P. Nordmanniana, and P. pinsapo. The average height of these trees is about 30 feet, and they are

by the considerable portion thereof still hanging in the late house. At right angles to these houses, and in front of them, is an excellent span-roof Peach house 50 feet long by 16 wide, from which 1000 to 1200 Peaches are obtained in the season. It is in this house that Mr. Gilbert flowers his Japanese Chrysanthemums, the incurved varieties occupying the vineries.

A large conservatory adjoins the mansion. The roof of this is covered with Tacsonia Van Volxemi producing an abundance of richly coloured flowers. A very fine collection of Tuberous Begonias have been grown and flowered in this house. Two grand specimens of Dracæna australis are also noticeable, and during the summer these are used with good effect outside, as may be seen by the engraving (fig. 67). Gloxinias are well grown, and a collection of these occupy nearly the whole space in the conservatory in early summer prior to the Begonias coming into flower.

The lawns and pleasure grounds are limited in area, but as they open on to a finely timbered park of fifty-two acres this is not noticeable. Mr. Foster appears to take a just pride in his estate, and in seeing

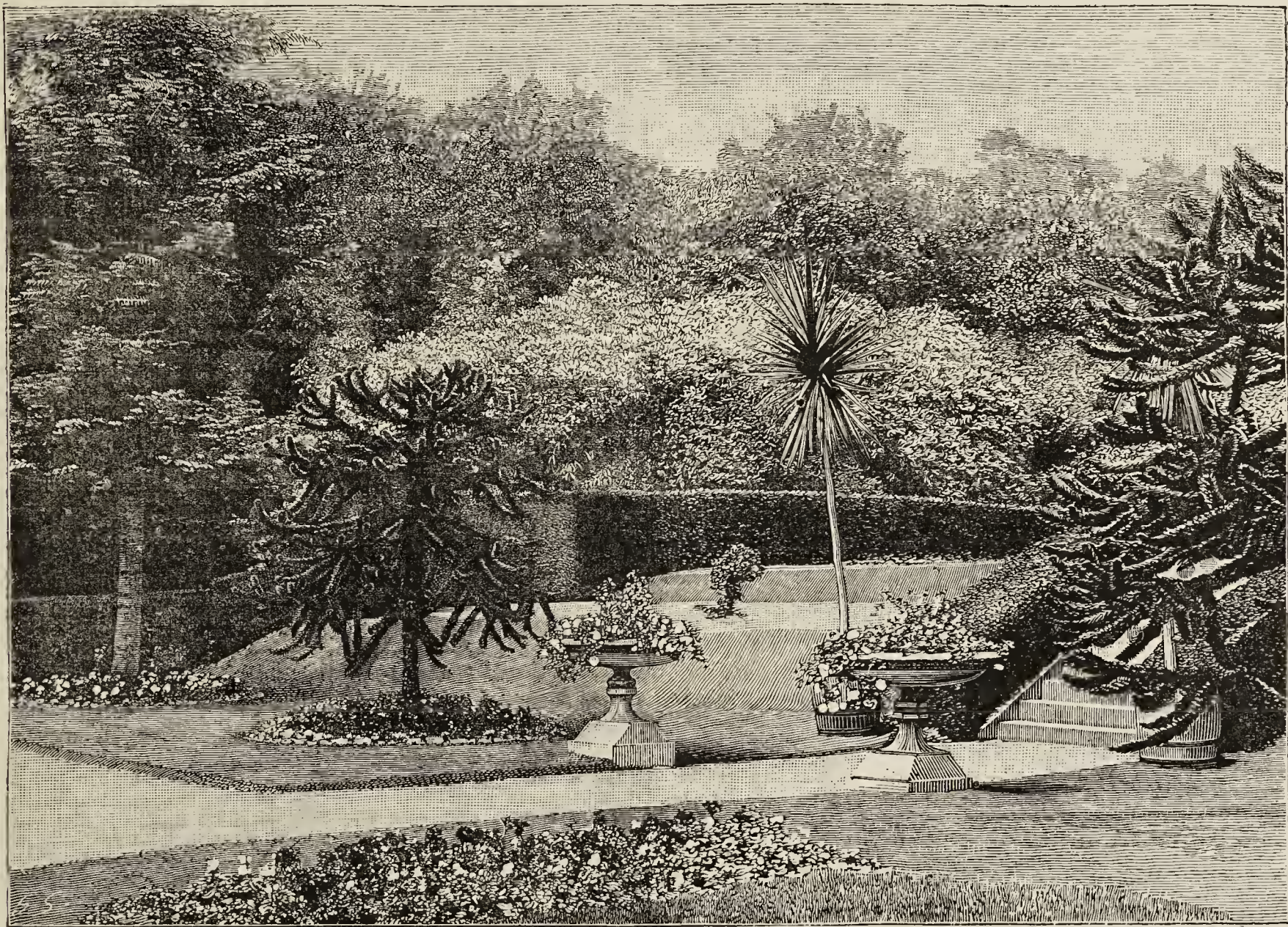


FIG. 67.—A VIEW IN SENNOWE GARDENS, NORFOLK.

uniform in shape and size. I am told by the proprietor that this drive was formed and planted thirty to thirty-five years ago by the late Mr. W. Barron of Elvaston. The majority of the trees were large specimens when planted, and were brought by road a distance of fifteen miles on Mr. Barron's machines from the Earl of Leicester's estates at Holkam.

The mansion is a somewhat low-built, square, old-fashioned structure, covering a considerable area. The courtyard and stables are extensive and good, the latter having been recently re-modelled inside and fitted with all modern appliances by the present proprietor.

The kitchen gardens are about two acres in extent, forming a square surrounded on three sides by high brick walls and on the fourth by the gardener's cottage and a range of glass houses with potting sheds and offices at the back. This range of lean-to houses comprises two vineries and a large structure devoted to Melon culture in the summer and as a forcing house in the winter. In this house now are some well-grown Poinsettias developing fine bracts. There is also a fine batch of Callas now throwing up spathes freely, plants which were planted out during the summer and lifted in September. Some Coelogyne cristata in large pans, well grown and promising to flower abundantly, were also noticeable.

Some excellent fruit has been grown in the vineries as is evidenced

that it shall not suffer in his hands, and in this he is ably supported by his skilled gardener, Mr. Gilbert.—W. K. WOODCOCK.

PEAR CULTURE IN SMALL GARDENS IN TOWNS.

BIRMINGHAM has a well-earned reputation for having plenty of factory and other chimneys, and is celebrated amongst other things for smoke, and suburban gardens have not the advantages of pure air and plenty of sunshine which non-manufacturing towns possess. Difficulties, however, can be overcome when a cultivator goes heartily to work and makes a study of the first principles in gardening. At the Birmingham Chrysanthemum Show prizes were offered for two dishes of Pears grown within two and a half miles of the Birmingham Post Office, and Mr. F. Mole, who resides at Edgbaston, within the area, and whose doings as a fruit cultivator I have on previous occasions referred to, won the first prize with very fine Doyenné du Comice and Pitmaston Duchesse d'Angoulême Pears grown against a wall in his garden. Since then he has distributed amongst his friends some specimens of the varieties he has fruited this year, and I had the good fortune to be a recipient of some fine well coloured samples of Doyenné du Comice,

Durondeau, Marie Louise, and Beurré Diel, the latter being especially fine and Al in texture and flavour. In a letter accompanying the fruits Mr. Mole wrote, "The season has been apparently so unfavourable that I did not anticipate the pleasure of sending any of my Pears to my friends, but to my agreeable surprise, they are, I think, almost as good in flavour and texture as I have ever had them. It is one of those peculiarities difficult to understand. Perhaps cultivation has had a little to do with it, but that I will not take too much credit for. Doyenné du Comice, as usual, heads the list, then Marie Louise comes next. Beurré Diel is very sugary, but as is its nature, lacks the exquisite texture of the preceding varieties. It is, however, a Pear to be recommended, as it produces a much better return than any other variety I grow. Durondeau would have been better with a better season, but still it is a handsome Pear, and worth growing."

Mr. Mole's success year after year is to a very great extent due to culture, and growing sorts that will do in town gardens with proper cultivation. Judicious pruning, always at the right time, thinning of the spurs, and even blossom buds, and giving plenty of room to the shoots, is a part of his system of cultivation. Copious waterings in dry weather, repeated syringings, and thinning to secure a moderate even crop of fine fruit rather than a large crop of small fruit, are also practised.

In a conversation recently with Mr. Parker of Impney, and he knows how to produce fine Pears, I found that he also was a firm believer in very liberal applications of water to the roots of trees against walls at all times when they need it, and I think we may certainly say that in dry summers and autumns, and at the blossoming time, water should not be spared.—W. D.

DARWIN TULIPS FOR BEDDING.

FROM the *Journal of Horticulture* of November 24th, we conclude there exists some misunderstanding as to the value and the most recommendable use of our Darwin Tulips. "D., Deal," says they find no favour in his eyes, as they scoff at all florists' rules (page 454).

From this judgment it only results that the said horticulturist does not like the Darwin Tulips as breeders. Indeed, it seems they do not answer exactly to the English florists' rules as regards late breeder Tulips. This, however, is not our fault at all. We have never offered them as perfect English breeder Tulips, but we have always recommended them for their exceedingly good qualities as late bedding Tulips. Notwithstanding this statement, the Darwin varieties have been described in some English horticultural periodicals as breeders. In the *Journal of Horticulture* of June 7th, 1888, we read, "Messrs. E. H. Krelage & Son, Haarlem, send us a collection of breeder Tulips, which they intend offering for sale next autumn without waiting until they have rectified. The flowers are large, of good form, and most varied in colours, purple, mauve, crimson, rose, and vermilion shades being very abundant, and a number could be selected that, judged by a florist's standard, would be considered most promising when broken." This note regards the same Tulips which are now offered and sent out as "Darwin" varieties. So it seems that, even amongst English horticulturists, the opinions on the florist's standard of breeder Tulips are not always the same.

This is, however, not the question now. We only wish to state that the Darwin Tulips should be considered and judged as bedding Tulips, and we are sure that everyone who has once seen them in their full glory in the second part of May will agree with the praises they secured from all visitors to our nurseries.

Recommending these Tulips in particular ourselves cannot be our task nor our intention; but we think your readers, and "D., Deal," in the first rank, will agree with us when we endeavour to remove misunderstandings like the above.—E. H. KRELAGE & SON.

[We perfectly remember that some of the flowers sent to us were clean and well formed, but the majority can only be regarded as decorative varieties, and this is all that Messrs. Krelage & Son claim for them. For this claim they have justification.]

HORTICULTURE IN COLORADO.

YOUR reports of the horticultural shows in England are very interesting to Colorado readers. Perhaps an account of the Exhibition of the Colorado State Bureau of Horticulture, held this autumn, may be equally interesting to English readers.

So recently as 1863 Colorado, then a frontier and very sparsely populated region, did not possess a single mile of railroad, and in that year William Lee, an Englishman from near Croydon in Surrey, carted the first fruit trees (Apples) from Iowa City, Iowa, over 700 miles across the plains, and planted them a few miles west of Denver. To-day Colorado has 5060 miles of railroad, 30,000 acres planted with fruit, and the Exhibition recently held in Denver could be duplicated in the United States, and certainly (according to my experience of many fruit exhibits in my native country) not in the United Kingdom for variety, size, colour, and flavour of fruits grown in the open air.

Several hundred exhibitors sent in about 2000 plates of fruit, and the result was a surprise even to Denver people, who had not realised the rapid development of horticulture in Colorado within the past few years. As a matter of fact, since I came here from Lancashire in 1883 the orchards of Colorado have more than trebled in area. For instance, last spring 1600 acres were planted with fruit trees near the town of Grand Junction alone in not less than 40 acre tracts. A New York capitalist

planted 80 acres of Pears near Grand Junction, mostly Bartlett's, in 1891, and there are two 80-acre Peach orchards. One prominent feature of fruit growing in Colorado as against fruit growing in England is that here the man who plants the orchard owns the land, and is not a mere tenant. As a consequence he buys only the best varieties of fruit trees, and as he gets his land at from £3 up to £30 per acre, according to location, every year's growth of his trees rapidly enhances the value of his property, and having no rent to pay he is soon able to make a very comfortable living from his crops. Another thing, too, fruit trees bear earlier and heavier, and the fruit commands a better price than in any other district I have seen or read about. At the Denver Show over a dozen counties were represented, but those which took the lead are the newer counties of Mesa, Delta, and Montrose, on the western or Pacific slope of the Rocky Mountains, where climatic conditions are especially favourable to the successful culture of a wide range of fruits.

The following partial list will give an idea of the fruits exhibited. Apples.—Gravenstein, Northern Spy, Golden Russet, Summer Pearmain, Domino, Milam, Fulton, Duchess of Oldenburg, Tetoffski, Sops of Wine, Autumn Strawberry, Jersey Sweet, Smith's Cider, Winesap, Stark, Ben Davis, Maiden's Blush, Fall Wine, Willow Twig, Rambo, Rall's Jennette, Lawyer, Bailey's Sweet, Tallman Sweet, Jonathan, White Winter Pearmain, Whitney No. 20, McMahon's White, Yellow Transparent, Waggoner, Wealthy, Hyslop, Martha, Henderson's Sweet, Tulpehocken, Transcendent, Wolf River, Isham Sweet, Walbridge, Rhode Island Greening, Roxbury Russet, Missouri Pippin, Fameuse and Celestia. There were many Apples over a pound weight each and 15 inches in circumference. Pears.—Bartlett, Flemish Beauty, Duchesse d'Angoulême, Early Margaret, Clapp's Favourite, Tyson, Sheldon, Seckel, Howell, Louise Bonne of Jersey, Vicar of Winkfield, Beurré d'Anjou, Beurré Easter, and Winter Nelis. The Pears were very fine in flavour and quite equal to California Pears for large size. Plums.—Lombard, Bradshaw, Yellow Egg, Pond's Seedling, Victoria, all the Gages, five varieties of Japanese Plums, the German Prune, the French Prune, the Fallemburg Prune, Tragedy, and Robe de Sargeant. Some varieties are very prolific, and branches were exhibited with the fruit simply clustered on them for several feet. A number of native varieties of considerable value, which improve much with cultivation, were also exhibited. Grapes.—Black Hamburg, Tokay, Goethe, Zinfandel, Muscat of Alexandria, Sweetwater, Seedless Sultan, Muscatella, the Mission Grape (from the old missions in Southern California), and the Cornichon, a large blue oval Grape from France. All these varieties are grown in the open air, with very slight protection in the winter. Many bunches weighed 3 lbs. and upwards each. There were also exhibited over forty varieties of American Grapes, hardier in character. Peaches.—Over twenty varieties were exhibited, which are grown to perfection without any protection in the above-mentioned three counties. The names of the varieties having originated in the Peach-growing districts of America are therefore not likely to be well known in England. The Peach season lasts from the middle of July until the middle of October. Apricots.—Over a dozen varieties, besides the Russian, are successfully grown, of which fine samples were exhibited. Nectarines.—Three varieties were exhibited—viz., New White, Hardwick, and Stanwick.

In less than five years fruit will be shipped from the counties of Mesa, Delta, and Montrose by the train load, as it now is from California.

The Colorado State Bureau of Horticulture has had a number of specimens of Colorado fruit reproduced in wax, exact counterparts as to size, shape, and colour, for exhibition at the World's Fair in Chicago next year. The work was done by a local expert. I saw the original fruits and the wax copies, and know them to be correct, but feel convinced the wax models will be regarded as gross exaggerations by many of the visitors to Chicago. The Colorado State Bureau is also having 100 varieties of Strawberries grown in pots specially for exhibition, when fruiting, at the World's Fair. These attempts are all very well, but it is necessary to visit such a show as has just closed in Denver, or to visit the orchards and vineyards themselves, to fully realise the high character of the fruit which can be and is actually raised here. The supply has already decreased the imports from California and other States, but has not reached the local demand, for the mining towns consume large quantities of fresh fruit, and canning factories will be established the moment there is a prospect of surplus fruit, which, however, does not seem likely for a few years to come.

Should this letter be read by any energetic young man without incumbance, experienced in gardening, who is ambitious to make more headway for himself than there seems to be before him where he is, he would do well to write to Dr. Alexander Shaw, Secretary of the State Bureau of Horticulture, Denver, for a copy of volume vi. of the Annual Reports of the Bureau, which contains much practical, reliable, and official information as to horticulture in Colorado. Good land suitable for fruit growing can be got at reasonable prices in different districts.

In consequence of my previous letters in your paper, several young Englishmen have personally come to me for advice as to the best locality in Colorado for going into fruit raising, and that advice always is to visit each district, consult practical fruit growers in each district, work at least one season for a fruit grower before purchasing land, and then use their own best judgment. I am not directly or indirectly interested in any district, and cannot undertake responsibility in such a matter, but I am firmly convinced that there are many young men in England of the right sort as to character, training, and financial means who could do better for themselves in Colorado than at home, as considerable numbers of English emigrants have done. Success, however, depends mainly on the emigrant himself.—THOMAS TONGE.



DATES OF THE N.C.S. EXHIBITIONS.

I AM pleased to learn that the dates of the Exhibitions for 1893 are now settled. There are to be four meetings, the first commencing on October 11th for early blooms. The principal Show is fixed to open on November 7th, a later one on December 6th. The date of the September Show is not yet announced. They are three-days Shows. Provincial societies might well follow the example of the National in early announcement of the Shows, but they will not perhaps do so in their duration.—E. MOLYNEUX.

EDINBURGH CHRYSANTHEMUM SHOW.

IT is reported that 26,000 persons visited this Exhibition, and that over £850 were taken at the turnstiles, a considerable increase over last year's receipts. This fact affords ample evidence that the Chrysanthemum is increasing in popularity in the north.

THE KENT COUNTY CHRYSANTHEMUM SOCIETY.

WE are informed that the next Exhibition of this Society will be held on November 1st, 1893. The Shows, which are held at Blackheath, are always looked forward to as amongst the earliest near London, and are invariably good. Mr. H. J. Jones, Ryecroft Nursery, Lewisham, is the Honorary Secretary.

WELL-GROWN SPECIMEN PLANTS.

WILL you kindly insert in your next issue what I think will be of interest to your numerous readers, and especially to Chrysanthemum growers? The following varieties of Chrysanthemums I have seen to-day, December 5th, grown by Mr. Friend, gardener to the Hon. P. C. Glyn, Rook's Nest, Oxted:—Specimen plants of Peter the Great, Madame C. Audiguier, La Nympe, and Maiden's Blush. They were all grown in 10-inch pots, trained out, and measure 5½ feet in diameter. Several of the plants have over 300 blossoms.—H. E. COPPIN.

CERTIFICATED CHRYSANTHEMUMS.

A MEETING of the Floral Committee of the National Chrysanthemum Society was held at the Royal Aquarium on Wednesday, December 7th. A few novelties were staged, and but only one first-class certificate was awarded. This was to Mr. R. Owen, Maidenhead, for Japanese Anemone Enterprise, a creamy yellow centre with pinkish lilac florets. Mr. Owen also sent a white incurved Japanese, which was commended. C. B. Withnall, a promising incurved shown by Mr. Owen, the Committee wished to see again. Messrs. Pitcher & Manda, Hextable, sent, among others, a pretty incurved Japanese named Mrs. Lay, which the Committee wished to see again. Messrs. H. Cannell & Sons, Swanley, sent Mdlle. Marie Recourva, a large, loose, white Japanese, and the Committee wished to see this again.

RUGBY CHRYSANTHEMUM SOCIETY AND THE GARDENERS' ORPHAN FUND.

MAY I be allowed a small space in your paper to sincerely thank all exhibitors and others who so generously contributed flowers, fruit, plants, and vegetables to the stall held in aid of the above Fund at the Society's late exhibition, and to state that the proceeds accruing therefrom amounted to £9 2s. 6d.? A cheque for this sum has been forwarded to the Treasurer of the Fund.—WILLIAM BRYANT, *Secretary*.

[We should be pleased to find space for many announcements of this nature. The orphans, if they knew of such kind acts, would clap their hands with glee.]

W. W. COLES.

I HAVE had several plants of Chrysanthemum W. W. Coles which produced blooms of two colours, specimens enclosed. I presume the red one No. 1 is the true colour, although in every case the yellow blooms appeared first. I should like to know if this variety is subject to sporting in this way, and if the sport is worth trying to "fix." The plants were all struck in March last, and the crown buds taken towards the end of August.—J. H. W.

[The chestnut coloured bloom is correct and good, the yellowish one very far from being in a condition for its merits to be estimated. There can be no harm in establishing the sport if this can be done, though the variations may be the consequence of early buds. Perhaps some of our readers will be able to say whether or not W. W. Coles is subject to sporting with them.]

NATIONAL CHRYSANTHEMUM SOCIETY.

OUR Secretary's smart reply to my remarks in the last issue of the *Journal of Horticulture* (page 480) is, I am afraid, owing to my lack of definition, somewhat wide of the mark. They were in each case, I believe, directed at the Floral Committee, which, with one exception, is entirely recruited from London or its neighbourhood, and not at the "General;" but even in this case, with the honourable exception brought forward by Mr. Dean, I fail to find the name of one grower from the provinces on the list.

If this be owing to the apathy of the provincial societies, and not to

metropolitan exclusiveness, it is time they were stirred up to act in the matter. We have in Liverpool, Birmingham, and most of our important centres men who both know the Chrysanthemum and can grow it in such form as not to fear competition in any field, and no society can be called truly "National" which does not include a fair percentage of such men, both in its rank and file and also in its executive.

Mr. Dean ignores the latter part of my letter, but I hope the subject will not be allowed to drop until an improvement has been made, being persuaded that the matter is of vital importance to the Society. Of course I am aware that it is easier to grumble than to suggest practical means of escaping our difficulties, but free ventilation will keep the matter to the front and encourage all well wishers to the N.C.S. to be on the alert so that no really good chance of obtaining a better place of meeting may be missed.—CHAS. E. PEARSON.

THE CERTIFICATES OF THE NATIONAL CHRYSANTHEMUM SOCIETY.

I HAVE looked in vain for a satisfactory reply to Mr. Godfrey's complaint which lately appeared in your columns, and consider some further explanation or action is due from the Committee of this Society. Mr. Godfrey appears to have brought a definite charge against one of its members in a letter that was placed in the hands of the officials. If this charge can be denied it certainly ought to be, and so far there does not appear to have been any explicit denial. Such measures as were proposed to Mr. Godfrey may not be unknown in country villages, but in a large body which aims at being national and taking the foremost position in everything connected with the culture of the Chrysanthemum one naturally expects to find the executive composed entirely of gentlemen who are above all such practices, and are able to sink personal matters entirely out of sight when acting in a national capacity. If this cannot be accomplished the Society will certainly lose favour with its country friends.—W. H. DIVERS, *Ketton Hall Gardens, Stamford*.

NEW CHRYSANTHEMUMS.

FOR several years I have carefully made notes of any new or rare varieties that have come under my notice for the benefit of readers of the *Journal of Horticulture*, and from the numerous letters received I am led to believe that my selection has proved of service to many. More varieties than ever have appeared this season, and the lengthy lists in catalogues are almost bewildering to those who have not the opportunity of having seen the flowers. Exhibitors know well the advantage of being in possession of the new varieties as soon as they are obtainable, as improvements in any section always score a point or two more than inferior sorts. Even to those who do not make exhibiting a feature the introduction of a new variety is of interest. My notes here may not always agree with the description in catalogues. I base my opinion on the flowers as seen.

INCURVED VARIETIES.—These have received but few additions; these seem to come so sparingly that any really meritorious kind is sure of a welcome. Last year we had a number of French-raised seedlings, some of which were sufficiently meritorious as to find a prominent place in this season's exhibitions, notably Madame Darier. Of this I formed a high estimate last year, and it has fully come up to expectations. More than once it has been adjudged the highest honours as the premier bloom in the show, which says a good deal for its quality, as it belongs to the medium sized rather than to the huge flowered sorts. Well developed blooms possess the three points most essential in an incurved bloom—depth, solidity and smoothness of floret. For that reason Madame Darier will long find a place in the lists of exhibition varieties.

M. R. *Bahuant*.—This has been shown very often, sometimes in good condition, but never in the highest order of merit. The florets are too broad to admit of their forming a really neat and shapely bloom. Its depth and solidity are not in proportion to its breadth. The backward season has been favourable to this variety, which is naturally early in opening its blooms; hence its appearance so often in the stands. I have been told more than once that I am "down" on this incurved, but it does not come up to my ideal of an incurved bloom such as Lord Alcester or any of the "Queen" family, from which is supposed to be a seedling.

Madame Pierre Louis *Blancard*.—I would caution exhibitors to be careful in staging this variety in company with Princess of Wales late in the season. Badly coloured blooms of the latter are much like this newer variety, and if placed before judges who are not conversant with the form of this French variety, might deem it necessary to disqualify, although they would be wrong. It is not wise to run such a risk, and I mention this to avoid an error of that description. Properly coloured blooms of both sorts are distinct, but it is not always that all varieties can be so presented.

Mrs. Robinson *King*.—I fear we have no variety to equal this. It has, however, not been seen in such good order generally as one might have expected, but that is accounted for by the fact of it not being a good "Queen" year; moreover, as this variety was so hard propagated last spring to meet the large demand, I did not expect to see it take such a high position as it will do in the future.

Robert *Petfield*.—Perhaps this is the best of the new varieties in this section. It is a full solid flower, the petals especially firm, and slightly pointed at the tips. The colour is lilac with faint purple stripes. A promising sort, undoubtedly, as a middle row bloom. I do not know its origin, but it is being sent out by Mr. R. Owen.

Lucy *Kendall*.—This is another of Mr. Owen's introductions, and belongs to the Princess of Wales family, I should say possibly a sport from Violet Tomlin, which it much favours in appearance, the ground

colour being similar with a bronze suffusion. The blooms I saw were very compact.

Baron Hirsch.—Said to be a seedling from Lord Wolseley or Baron Beust; it favours both in some respects. It has some of the colour of the former with the floret of the latter, which is slightly pointed and rather erect. It should make a huge bloom, but whether the depth will be proportionate with its width is a matter to be determined later when it gets into various cultivators' hands. The colour is best described as bronze with a golden suffusion; the inside of the florets is crimson chestnut, but of course that should not be visible.

Mrs. Adolphus Jacobs.—A bronze coloured sport from the Japanese Madame Bacco. The florets are gold tipped when unfolding; this gradually passes away by development of the flower. The parent of this has been remarkably well shown this season, and now that large numbers are required in the leading classes this addition should prove useful, as it is the exact counterpart of its parent in everything but colour.

Mrs. Mitchell.—This is a sport from Empress Eugénie, and what is at once remarkable about the new comer is its immunity from damp. The parent is a notoriously bad "damper," but its progeny shows none of that. As a proof of this I have at the present time a plant growing at the foot of a south wall, where it has stood all the summer. It is now in bloom, and without any protection from wet it exhibits no sign of damp whatever, neither has it under glass. In growth it is the exact counterpart of its parent, and the only difference I see in the blooms is that Mrs. Mitchell has broader florets; the blooms also are deeper in "build." The colour, when the blooms first open, is buff faintly striped with purple; but when fully developed it is a deep warm shade of golden amber, the outer or lower florets flushed with rose. It was raised in New Zealand, and sent over to me to grow last year. It has already received four first-class certificates in England, including that of the N.C.S. As a middle or front row bloom it will prove most valuable on account of its distinct colour.

Richard Parker I have seen but once this season during a lengthy tour among the best shows, and that was at Norwich. It is said to be a sport from Miss M. A. Haggas and deeper in colour, which it is when in perfect condition; but cultivators must be sure that blooms possess the extra shade of colour requisite over that of its parent to make it distinct before staging, or adjudicators not knowing the difference may condemn it as a duplicate of Miss Haggas.

May Tomlin.—As generally seen, I regard this as a pale-coloured Violet Tomlin, and I fear not distinct enough to be classed as distinct from that variety.

Miss Bella Wilson, as I saw it, is too upright in the florets to incurve well, and without perfect incurving can hardly come up to exhibition form.—E. MOLYNEUX.

(To be continued.)

EUONYMUS EUROPÆUS.

I WAS very pleased to read Mr. Dunkin's note in your last issue (page 484) referring to the above beautiful British berry-bearing shrub. The past season seems to have been a most favourable one to this as to many other berry-bearing trees. Many of the Briars, particularly *Rosa canina*, have been very good indeed, and the same applies to *Pyrus torminalis*, commonly known as the Wild Service Tree. *Bryonia dioica* has been particularly attractive this season, and many others have helped to make the hedgerows and woods extremely delightful.

But the Spindle Tree mentioned at the head of this note has been so beautiful in this neighbourhood (Cirencester) that I have been tempted to plant a goodly number of them in the shrubberies. I fear, however, that our soil is too rich for them, for I observe that they bear their fruit in the greatest profusion where they are growing on poor stony soil such as is generally found on the sides of the roads on these Cotswold hills.

The autumn foliage has also been particularly beautiful around here during the past season. The common Maple, *Acer campestre*, has been very attractive, showing to the greatest advantage where it happened to be growing near a copper-coloured Beach. The Oaks and Elms have also been delightful; in fact, the valley (called the Golden Valley) which runs through a portion of the estate from whence I write to Gloucester has been a sight worth a journey from London to see. The woods are situated on the south side of this valley, and from the opposite side, which is on a level with the woods, a magnificent view can be obtained. So good is this view that hundreds of people avail themselves of it during the autumn of each year. The woods comprise trees of almost every kind of useful timber, such as the Oak, Ash, Beech, Sycamore, Maple, Larch, Spruce, and Pines, which give relief to the mass of light colour.—T. A.

A TOUR ON THE SOUTH COAST.

LANCING MANOR.

THE busiest time of the year over I decided to accept a long-standing invitation to spend a day or two on the south coast. On arriving at Lancing Station, my destination, I was met by Mr. Jones, gardener at Lancing Manor, the charming residence of J. M. Carr-Lloyd, Esq., and which is situated about two miles from the station and three from Shoreham. This gentleman is a large landowner, and his estate includes numerous market gardens. By the innumerable glass houses one sees in

all directions, the south coast must be the paradise of market growers. The glass houses at Lancing Manor were first inspected. These are not large, but are remarkable for the clean and healthy condition of the occupants. The first entered contained what is seldom seen—a number of perfectly clean Gardenias. Not a bit of mealy bug, scale, or fly were noticeable, and the plants were covered with blooms and buds in all stages of development. The Gardenias are very firmly potted in peat and sand, and grown close to the glass without any shade, and the short-jointed sturdy growth is a proof that this treatment suits them admirably. The next house is a small stove filled with a varied collection, Ferns chiefly, different species of *Adiantums* predominating. To show how well and quickly they are grown, Mr. Jones informed me that several specimens now 6 and 7 feet through were only in 4-inch pots two years ago. The soil he uses for all his Maidenhairs is simply loam and leaf mould without any other ingredient whatever.

The vineries when Mr. Jones took charge of the garden were in a very unsatisfactory condition, so bad that he obtained permission to replant them. They are now filled with very healthy short-jointed canes, and will doubtless soon give a good account of themselves. A splendid batch of *Souvenir de la Malmaison* Carnations next attracted my attention, plants in large and small pots all looking equally well. The conservatory is attached to the mansion, and contained the usual autumnal occupants, such as Begonias, Fuchsias, Pelargoniums in variety, and some very strong and floriferous Madame Desgranges and G. Wermig Chrysanthemums. Very pretty baskets of different varieties of Ivy-leaved Pelargoniums suspended from the roof greatly added to the attractions. The flower garden at the time of my visit was a little past its best, but was still very gay.

Standard Fig trees are a great feature of this place, and I was informed seldom fail to bear good crops. Many of the trees here and in the locality measure 20 to 30 feet through. The chief varieties grown are Brown Turkey and a variety they call "Madagascar." No pruning and training are attempted, and the trees simply run wild. In the kitchen garden every nook and corner are filled to overflowing with the usual vegetation necessary to a large establishment.

GORING HALL.

After leaving Lancing Manor I proceeded to Goring Hall, the country seat of W. Lyon, Esq., and finding Mr. Greenyer, the gardener, at home, he very kindly conducted me round this beautiful place. Some large Yew hedges, clipped in the old-fashioned style and partly surrounding a tastefully arranged flower garden, are great features here. Some very artistically arranged carpet beds at once attracted my attention. These when really well done certainly surpass, during the autumn, the ordinary flowering plant arrangements. *Koenigia maritima variegata*, as used in the carpet bedding here, struck me as being particularly effective.

I was next conducted to the vineries, three in number, and such a show of Grapes as is rarely seen in a gentleman's garden met my view. This was a real market grower's crop, and most gardeners would consider the Vines considerably over-cropped. Mr. Greenyer, however, assured me that these Vines had carried about the same weight of fruit for years. A good sewage tank is Mr. Greenyer's invigorator, not only for his Grapes, but Peaches, &c., very fine Beurré Superfin and other good varieties of Pears plainly showing the rich manurial properties of the sewage. The occupants of the kitchen garden come in for a share of this fertilising water. One application shows to an inch where it has been applied. A very pleasant evening spent with Mr. Greenyer will not soon be forgotten.

"VILLAGES OF GLASS."

Any garden tour on the south coast would be incomplete without a visit to one or more of the innumerable market garden establishments. The "village of glass" I selected to visit is owned by Mr. Nash. It is situated a short distance from Lancing station, and not far from the coast. Mr. Nash was not at home, but his manager, Mr. Neigh, kindly showed me through the principal houses. These comprise vineries, Peach houses, Tomato, Strawberry, and Mushroom houses. They are not all the same size, but average 160 feet in length by 22 feet in width. The vineries were entered first, and oh! what a sight. If I remember rightly, Mr. Neigh expected to cut over 3000 lbs. of Grapes from each house. The varieties chiefly grown are Black Hamburgh, Alicante, Gros Maroc, and Gros Colman. No expensive borders are prepared, but the Vines are simply planted in the ordinary soil, a heavy clayey loam. Frequent applications of manure, applied as surface dressings, and plenty of water and air are the elements of success.

We next enter a very large and lofty Peach house. Here, again, is a system of cultivation pursued not often seen in a gentleman's garden. Enormous growths are trained in, which most people would think impossible to mature, but which Mr. Neigh assured me in their light houses, ripen sufficiently to bring to perfection large crops of very fine Peaches. Mr. Neigh said fruits weighing over 16 ozs. had been gathered. I noticed the soil was very hard and dry. Tomatoes are nearly over, but sufficient remain to show what a splendid crop had been secured. The Old Red, crossed and intercrossed with other varieties, is the variety chiefly grown.

Another market garden also near Lancing I next visited. This is tenanted by Mr. Russell, who, in addition to what he produces under glass, grows hardy fruit and vegetables in quantity for the Worthing and Brighton markets. Mr. Russell's vineries contain similar crops to Mr. Nash's—all very heavy bunches of Grapes of superb quality. Several houses were being prepared for the reception of 3000 Callas.

The practice followed in cultivating these is very simple. The plants are put out in a batch as thickly as possible, not the orthodox 18 inches apart, watered once or twice, and then left to take their chance till lifting time. At the time of my visit they were splendid stuff, full of bloom and buds. Many other good things were to be seen, and I returned home satisfied that I had picked up many wrinkles.—G. T. D.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION AND YOUNG MEN.

"WELL-WISHER'S" letter on page 482 of the *Journal of Horticulture* is a laudable attempt to further promote the usefulness of this valuable Institution. In supporting the Institution gardeners in general are laying up for themselves (if ever needed) the means of support in their old age, and if never required so much the better for them. There will be the satisfaction that we, by our yearly contributions to the Institution, have been the means of helping to assist some of our brothers or their widows in distress in their old age. I know that there are gardeners who would gladly, if their means would allow them, support the Institution. On the other hand, there are doubtless many who never give the Institution more than a passing thought, except when a discussion or an appeal is issued in the gardening papers.

The idea to invite foremen and journeymen to join is excellent, and I hope if agreed upon that many will co-operate, and have votes in proportion to the amount of their annual subscription. Another plan I should like to mention which, if adopted, I think would be a benefit to the Institution. Head gardeners who desire to join and do not feel themselves able to contribute the guinea all at one time should, by a new rule, be permitted to tender their subscription in two half-yearly subscriptions of 10s. 6d., or four of 5s. 3d. quarterly, as it is not every gardener who can spare a guinea all at once. It is all very well for some people to say that a guinea is not much, but when this and other subscriptions are taken into consideration, to which head gardeners who desire to keep themselves informed of all that goes on in the gardening world contribute, I think we should stop and think before we speak too harshly of those who have not seen their way to join this Institution, but rather see if ways and means to make it more easy for them to do so cannot be devised. The Manchester Unity and Foresters, &c., adopt monthly and quarterly subscriptions with success, and the same means should be provided to make our Institution popular, then young gardeners might join more freely under a system of graduated subscriptions.—JOHN CHINNERY.

CYCLAMENS AND BOUVARDIAS.

[Abridged from a paper read at a meeting of the Devon and Exeter Gardeners' Association by Mr. JAMES PAYNE.]

DEALING first with the Cyclamen, the essayist said that it was one of the finest decorative plants for the greenhouse, the conservatory, or for house decoration, and on account of its free-flowering habit, its pretty foliage, and its gay flowers was particularly serviceable during the winter months. In growing it he counselled sowing fresh seed every year in the month of August. The seed should be sown in pans well drained and filled to within an inch of the top with finely sifted loam, leaf soil, and a little coarse silver sand, pressing the soil rather firmly in the pan. Before sowing the seed water the soil and let it settle for an hour. Place in a temperature of about 55° and put a little moss or a piece of slate over the pan to shade it and hasten the germination.

When the plants are large enough to handle prick them off into 4½-inch pots, six in a pot, in the same kind of soil and temperature. In the winter months the plants should only be "dewed" with a fine syringe morning and afternoon. Towards the end of December the seedlings should then be large enough to pot off singly; and when, in March, the sun gets stronger, they should be partially shaded else they are apt to droop. A check of this kind throws them a long way back. In June give the plants another and final shift into their flowering pots (4½-inch). Let the corm be a little above the soil, and mix a little well decayed cow manure and road scrapings with the compost. A little soot at the bottom deters the ingress of worms. In growing Cyclamens in frames they ought, by means of shingle or coal ashes, to be raised to near the glass to keep them stubby and strong. This is an important matter in growing them well.

The ideal house for growing the Cyclamen in is a span-roofed structure with the path in the centre. Care must be taken not to let the plants get a chill through a sudden frost coming on. Cyclamen can be grown on a second year, but unless it is well done it is better to start afresh every year. In picking the blooms they should be pulled right up, as, if the part of the stalk remaining rots down, it is apt, by contagion, to damage the incipient buds. Cyclamen come true from seed. If large flowers are wanted grow the giganteum varieties.

The same kind of soil and temperature that suits the Cyclamen will do for the Bouvardia. The latter is best propagated by cuttings in spring, although division of the root is practised by some gardeners. When the cuttings are taken off they ought to be plunged in a bottom heat of about 75°, and kept shaded until they strike. When growing their straggling points should be taken off. The plants should be flowered in 5½-inch pots, which are large enough for the first season. When in the frames they should be shaded, but when the warm weather sets in they should be stood right out in the open—in cocoa-nut fibre if possible, as that keeps an even temperature about the roots. Upon no account must they suffer then through want of water, and a little help in the way of liquid manure will not be lost upon them.

Early in September they ought to be taken into a cool house and brought on to the flowering state. In placing them out of doors in the summer they must not be exposed to a blazing sun, as that would scorch them. The north side of a wall is more favourable. Red spider is apt to affect them, but that can be got rid of by some of the insecticides sold by the seedsmen. Gardeners who have Cyclamen and Bouvardias to cut from need never be at a loss when asked to make up a spray for a lady to wear in her dress or in her hair, nor for a buttonhole bouquet for a gentleman. As decorative plants their value is still greater.

JAMESIA AMERICANA.

ALTHOUGH perfectly hardy out of doors, and amongst the earliest of the North American plants, *Jamesia americana* (fig. 68) is admirably adapted for forcing. It may be lifted and potted in the autumn much in the way recommended for Rhododendrons and similar plants, or kept in pots and transferred to the greenhouse early in January. It will



FIG. 68.—JAMESIA AMERICANA.

flower early in March, and extend over April, in mild seasons sooner. As it never fails to bloom, and seems quite indifferent to either wet or dry seasons, it is a valuable acquisition, and should be extensively grown.

The plant grows naturally of a rather straggling habit, but this may easily be remedied by pruning. The shoots are stout and woody, and are much-branched. The flowers are in large corymbose heads, and are borne laterally, also opposite, on every joint, and smaller than the lateral ones. They are pure white and slightly fragrant, lasting a considerable time in a cut state. The leaves are borne in opposite pairs on the young shoots, stalked, oval-shaped, and evenly and sharply serrated. They are of a fine light green colour, and covered with a fine silky down, which makes them quite silvery underneath. As it rarely if ever ripens seed in this country, the best way to increase it is from cuttings, which should be placed in cool frames in a shady position, and watered very sparingly until rooted.

As a low-growing shrub it is unequalled in early summer, its pure white flowers having a peculiar fascination where the run on white cut flowers is large at that season. Equally useful also as a tall shrub for the background, it is exceedingly floriferous in either position. The flowering season in the open air extends over May and June, and the flowers are produced in profusion.

A LUCKY SHOWMAN.

I HAVE read with much pleasure the note of Mr. Portsmouth on page 483 on Grape culture in the North of England, and can confirm every word he has said. His article is headed "A Lucky Showman,"

and so he was by exhibiting Grapes at South Shields on the 9th and 10th of November last, and getting the first prize, also winning the silver medal in recognition of superior cultural skill. But the exhibitor of these Grapes only entered his present situation about the 15th August, 1892. Mr. Portsmouth says he saw the Grapes about a fortnight before the late gardener (Mr. Shuttleworth) left his situation, and the Grapes then were nearly finished. A few days before the gardener left I saw them, and they were then I considered finished. A finer house of Grapes at that time I never saw. I may also mention that in 1891 Mr. Shuttleworth took nine first prizes and ten seconds at various leading shows in the neighbourhood for Grapes alone. It is clear the late gardener grew the Grapes for which the present one received the honours. I also notice the latter had the first prize for white Grapes at Gateshead on the 29th of November, cut out of the same house. As Mr. Portsmouth fairly says, "Let honour be given where honour is due."—FAIRPLAY.

[It is not easy to deal satisfactorily with such cases as this. The owner of the Grapes may have desired their exhibition. The judges were bound to give the awards to the best produce, by whomsoever staged, and if the schedule announced that their awards were "final," the Committee would be equally bound by their decision. Mr. Shuttleworth missed the prizes for the Grapes that he evidently did so much towards perfecting because he left his situation, and consequently could not show them. His successor may be equally capable, and may have grown Grapes elsewhere with which someone else might have won prizes. He appears to have been fortunate in following such a good Grape grower as he did, and it would be a graceful act, if practicable, to grant Mr. Shuttleworth a medal for his admitted cultural skill.]

VINE LEAVES AND LATERALS.

HOWEVER much "Warwick" may pretend to ignore the fact, he must know that his method of attack under a pseudonym is somewhat the reverse of courageous. Your correspondent evidently thinks he has a good opportunity of taking me at a disadvantage; I can, however, assure him that I provided for such a contingency. I therefore now take the course suggested in the editorial footnote (on page 488), with which I thoroughly agree. The Vine leaves I forwarded to 171, Fleet Street, were grown by Mr. J. Kitley, who, as many know well, rents the vineries here, the treatment of the Vines having been identical to that which I have long practised. They formed a splendid illustration of good culture ready to hand, and the specimens were sent with the full consent of the grower and knowledge of the Editor that full credit would be given in due time to the improver of the Vines for his excellent work. The public will probably have the penetration to notice how wonderfully interested "Warwick" must be in these now notorious Vines. I have considerable pleasure in being in accord with him on one point. Without doubt Mr. Ward grew good Grapes before he saw me, and I have no doubt will continue to do so as long as he attempts to grow them. If a few years in charge of the fine vineries at Longford is not calculated to make both a good Grape grower and a Grape enthusiast, I hardly know what is. Perhaps my critic will be so good as to inform me if he thinks the vineries at Warwick have always been a better school?—H. DUNKIN.

MIGNONETTE.

How beautiful and useful is this very popular and sweetly perfumed plant, yet it is seldom grown to perfection in private establishments. It is most useful when employed in a cut state, lasting a considerable time in water. When so employed the ends of the stalks should be cut off every morning, and the receptacle replenished with a fresh supply of water.

Having been very successful in the cultivation of Mignonette this season, I think, perhaps, a few words respecting my method of cultivation may be of interest to some readers. I think by far the best varieties to grow for autumn and winter use (and that is what I purpose more particularly to refer to at the present time) is Machet and Miles' Spiral, the latter being of much greater length in the flower spikes, but lacking in girth and colour. Machet has the brightest colour, and is of a more dense and sturdy habit. I think if confined to growing one variety only, I should certainly give preference to Machet.

Seeds of the above varieties may be sown about the middle of July, using the pots in which they are intended to flower. I think the plants succeed much better when so treated than when the seed is sown in smaller pots and potting-on is resorted to, as they are very impatient of root disturbance. Mignonette prefers a rich soil; two parts loam, one of dried cow manure, and a little lime rubbish will form an excellent compost for them. The pots should be clean and properly drained, this being very essential to the successful culture of Mignonette. The soil should also be made firm, but not rammed in in layers. The seeds ought then be sown evenly over the surface and covered with a little sifted soil similar to that before mentioned. Afterwards place in a cold frame on a bed of coal ashes, and water through a fine rose. The frame may be kept close till the seedlings appear, when plenty of air must be admitted, and the young plants thinned out to about five or six in an 8-inch pot. I make two thinnings, the first as soon as the plants appear, and the second when they are large enough to determine which are the best.

The first bloom which appears should be promptly removed and the shoots from the next break thinned out, leaving three or four on a

plant. Each shoot ought to be provided with a neat stake before it gets large enough to fall about. A little artificial manure should be applied after the racemes begin to show themselves, once or twice a week; liquid farmyard manure is also an excellent stimulant if judiciously applied, greatly assisting in the development and lengthening of the racemes. The plants should be placed in a light airy house for their winter quarters about the end of September, a house where Carnations are grown with a temperature of from 45° to 55° suiting them admirably. Where this treatment is properly carried out the result will be fine specimens in full bloom four or five months after sowing, and they will continue to flower several months. I have Miles' Spiral with racemes 13 inches in length, and Machet with some 9 inches in length.—G. PARRANT.

THE CULTIVATION OF THE FUCHSIA.

[Mr. W. P. ROBERTS, Ovenden Hall Gardens, read the following paper at a meeting of the Preston and Fulwood Horticultural Society.]

MR. ROBERTS said it was frequently remarked, and with some truth, that the Fuchsia was not grown so well and so extensively as it used to be, and that the wretched specimens seen at shows were mere shadows of what were grown at one time. Personally he could vouch that the Fuchsia was as high in his estimation now as it was when he first took up its culture twenty or more years ago. As a window plant it was a universal favourite with cottagers, and he expected it would find space in their windows and greenhouses when many of its contemporaries had passed out of cultivation and were forgotten. It was rather singular that the first Fuchsia introduced into this country was grown for a time in a cottage window. It was brought by a sailor from Chili in 1746, and was growing in the window of his mother's dwelling when it attracted the attention of Mr. Lee, nurseryman, of Hammersmith, amongst many others, who, after sundry offers, ultimately procured it for 80 guineas, on condition that he could return a plant or two after a stock had been secured. This plant was named *Fuchsia coccinea*. Some eighty years later hybrids were raised, and since then scores of varieties had been grown which were not now in cultivation; they have been superseded by better sorts.

All the sorts were beautiful, and many formed natural drooping pyramids, and two—Wave of Life and Sunray—had pleasing variegated leaves. The doubles had not such good habit as a rule as the singles, but with a little manipulating they could be trained to any form. He proceeded to the mode of propagation, and said that cuttings might be rooted at any time from January to September, but they rooted sooner and with greater certainty in the spring than during the autumn, providing there was accommodation in the way of a house or pit with a temperature of 60° to 70°. In the latter he had them ready for potting into 3-inch pots in ten days. The usual method of rooting them was to put several in small pots filled with sandy soil and a layer of sand on the surface, a portion of which trickled down and followed the cutting. The sand did not hold so much water between the particles as soil, consequently the cuttings were not so liable to decay. The pots were either plunged in bottom heat or covered with handlights according to accommodation. It was notorious that the Fuchsia would root in sand and water with the greatest freedom, scarcely a cutting missing. He filled a few garden saucers with sand and made it fairly sloppy with water. Then the cuttings were thrust in without the aid of the dibber. In the early months of the year the cuttings required no shade, neither would they flag if the sand were kept moist. In order to have cuttings ready in January it was necessary to start some plants in heat in December. He would follow the rooted cutting into its 3-inch pot, with its roots surrounded with sweet sandy loam, leaf mould, and a sixth of burnt earth, or a smaller portion of charcoal dust. For a few days the young plants should remain in the house they were rooted in, but as soon as they had good hold of the soil and were on the move a temperature of 55° to 60° would suit them better than 60° to 70° from then until they were in flower and their growth completed. The structure must not be an airy one. The plants must be kept constantly on the move by maintaining a moist growing atmosphere, produced by syringing and sprinkling the floor and other surfaces.

Probably the present day greenhouses, which were nearly all glass and very little wood, were not so suitable for the Fuchsia as those of less modern build. Many of those ancient structures, with their small squares of glass, sunk paths, and other internal structural arrangements, had naturally a moist genial atmosphere, which enabled our forefathers to grow plants with greater ease than we can, and this would in a measure account for any decline there may be in its culture. The best plants he ever grew were located in a deep-sunk brick pit, the bottom of which was always moist and cool. The plants in their early stage were on a temporary stage, and as they grew were lowered until they ultimately reached the floor. He was convinced that from the end of May the Fuchsia would do better out of doors, in a shady sheltered corner, plunged in some material to prevent the wind blowing it over, than it did in many houses.

To keep the plants steadily growing they must not be allowed to get the least root-bound, and though it was not safe to give dates as to when they should be potted, it might be fairly assumed that those rooted in January and potted into 3-inch pots would in March or April be ready for 5 or 6-inch pots. The next pot must be 3 inches larger, and the potting must take place ten or twelve weeks before the plants are wanted to flower. If they have been properly attended to they should by July be quite 3 feet in diameter and 6 inches more in height, bushy,

furnished with shoots overhanging the pots, and loaded with flowers. If larger and later flowering plants were aimed at they must be again moved into still larger pots. He rarely grew any of the plants in pots the second year, but made a practice of planting them in the open air in beds. They, however, did very well the second year in pots, and after the leaves were off they should be pruned and stored in any frost-proof structure that was not too dry.

In conclusion, he said the varieties of the Fuchsia were numerous. A few of those he had grown were Lord Falmouth, General Gordon, Gazette, Sir Colin Campbell, Lord Clyde, and Try Me O. The last named was once a great favourite with market growers. Diadem, Clio, Guiding Star, Mrs. Marshall, Marguerite, Rose of Castille, and an improved variety of it, were sorts which still found their way into the exhibition tent, and for general usefulness it was a question if they could be surpassed.

Mr. Payne said the best Fuchsias he had seen were raised in February. They were over 5 feet high, and were grown under a north wall and out of the sun. They had grown 5 feet in one season.

Mr. Roberts, in reply, said it was an easy matter to grow Fuchsias 5 feet high, and 2½ or 3 feet through in a season. His paper had been prepared mainly for amateurs, and he expected that they would have some questions to ask.

Mr. Ashworth said that as an amateur he was highly pleased with the paper. Among cottagers there was another name by which Fuchsia was known, and that was "dropper," and they did drop (laughter). He should be very glad if Mr. Roberts could tell him how to prevent the dropping. Of course, he did not want to be told to tie the flowers on (laughter), but how he could keep them on naturally. He had grown Fuchsias for sixteen years in a backyard in the heart of Preston.

Mr. Roberts said he had never known the flowers to drop in the country; he had not had experience of them in the town.

NATIONAL CHRYSANTHEMUM SOCIETY.

ANNUAL DINNER.

THE annual dinner of the National Chrysanthemum Society was held at Anderton's Hotel, Fleet Street, E.C., on Wednesday, November 30th. Sir Edwin Saunders, F.R.C.S., President of the Society, occupied the chair, and he was supported by a large company, comprising upwards of 120 gentlemen. Amongst others present were Sir John Llewelyn, Bart.; Sir Henry Doulton, W. Herbert Fowler, Esq. (Mayor of Taunton), A. J. Veitch, Esq., C. C. Paine, Esq., E. C. Jukes, Esq.; G. J. Ingram, Esq., J. W. Wilkinson, Esq., Dr. Walker, Messrs. C. H. Payne, R. Ballantine, J. R. Starling, H. Cannell, and numerous well-known Chrysanthemum growers. The arrangements were admirably conducted by Mr. R. Dean, the Secretary.

Sir Edwin Saunders, after the usual patriotic toasts, gave the toast of the evening, that of "The National Chrysanthemum Society." In doing so he said it would be needless to make a long speech, inasmuch as the majority of those present were members and well acquainted with the affairs of the Society; and those who were not members would doubtless be so shortly. He, they would be glad to hear, had enlisted two very distinguished persons in his friends, Sir John Llewelyn and Sir Henry Doulton. The former had come all the way from Wales on purpose to be present. Regarding the National Chrysanthemum Society, it had worked, he thought, a great revolution in the floricultural world, since it had developed from a local suburban society into one of national importance and magnitude. It had had an uninterrupted progress. The value of the Floral Committee meetings could not be over-estimated, and holding conferences, reading papers, and giving certificates fully accomplished the objects the Society had in view. The present high development of the Chrysanthemum could be attributed to the Society, for by the exchange of ideas, affording stimulus in offering prizes, and friendly rivalry, this state of things has come to pass. What would London be without its November displays at the Aquarium? He may safely say that the shows were of great importance from an educational point of view. One can hardly judge the effect they have upon mankind. To his mind they furnish as useful a purpose as the fine art exhibitions of the Royal Academy. (Hear, hear.) According to the latest accounts the Japanese, our most formidable rivals in Chrysanthemum growing, have never been able to produce such good results as are to be seen in this country. With regard to the numerical strength of the National Chrysanthemum Society, there were now 706 members on the books. Of these 637 were ordinary members and sixty Fellows of the Society. There were also twenty-six foreign members, including seven in America, seven in Belgium, six in France, one in Holland, one in India, two in Italy, one in New Zealand, and one in Tasmania. There were ninety-four affiliated societies, eighty-five of these being at home, and nine colonial. To return the compliment paid a short time back by Mr. J. Earland, of Wellington, New Zealand, to the National Chrysanthemum Society, the latter had made arrangements to send out twenty-four blooms, frozen in ice, to the Wellington Chrysanthemum Society.

C. C. Paine, Esq., then gave "The Vice-Presidents and Officers of the Society," coupling with this toast the names of Sir John Llewelyn, Bart., and Messrs. J. R. Starling and C. H. Payne. Mr. Paine said that although the Society had lost many Vice-Presidents, he was proud to say that they had gained an enthusiast in Sir John Llewelyn. Without the indefatigable officers the N.C.S. would never have come into such prominence. He should like to hear, however, that the Foreign Secretary (Mr. C. H. Payne) was in correspondence with Japan. They had members and affiliated societies in many parts of the globe, and if

there was a society in Japan he should be glad to hear of its being affiliated to the "National." As an old member of the original Stoke Newington Society, Mr. Paine referred to the development of the N.C.S. A list of prizewinners was published by the Stoke Newington Society, and he thought a similar method might with advantage be adopted by the "National." If published with the annual report and circulated among the members it would be appreciated by many. Regarding the work accomplished by the Society, he should like to see greater prominence given to the Chrysanthemum as a decorative plant. (Hear, hear). Dwarf, naturally grown, bushy plants suitable for conservatory decoration should be more generally seen at exhibitions. He would gladly offer a prize for such if the Committee could see their way to include it in the schedule.

Sir John Llewelyn, Bart., in responding, said he felt sure that the success of the Society was due to the assiduity and courtesy of the officers. He regarded the Chrysanthemum as one of the most important of flowers, for what would the floral chain be without it? The Chrysanthemum forms the best link in the floral chain, because it comes at a time of year when other flowers are past their beauty. There was one reform, however, that he should like to see accomplished, that was the name of "Chrysanthemum." He invited all interested in the matter to find out a better and shorter name, for after all "Chrysanthemum" merely meant "yellow flower," which did not do justice to the beautiful and varied colours now seen. It had struck him when visiting the Shows that the specimen plants covered with bloom were the most interesting and beautiful in the whole Exhibition. If possible, he thought it would be advisable for the Society to be in communication with the Chinese.

Mr. J. R. Starling briefly referred to the financial state of the Society, and remarked that once there was a reserve fund of £100, but now, he regretted to say, it was *non est*. He hoped it would be re-established as a nucleus for the Society to fall back upon; for although at present in a flourishing condition, they never knew when it might be needed.

Mr. C. H. Payne referred to the foreign work of the Society, and said that the eyes of the Continental growers were upon the N.C.S. A National Chrysanthemum Society had recently been started in Belgium, and there was also stated to be a similar organisation in America.

E. C. Jukes, Esq., proposed the "Affiliated and Kindred Societies," and said that the fact of having ninety-four affiliated societies was most gratifying, and sufficient to show the high appreciation in which the National Chrysanthemum Society was held throughout the kingdom. The country societies no doubt derive benefit through being affiliated with the N.C.S., but he did not disguise the fact that the advantages were mutual. Referring to the letter which appeared in the *Journal of Horticulture* (page 461) regarding the infusing of country blood into the Committee, all affiliated societies had a right to send a representative to every meeting, and it was entirely their own fault if they neglected to do so. He thought the remarks about a "London clique" were unjustifiable. He did not think it could truthfully be called a clique. (Hear, hear.) If it was possible to have country members on their Committees he for one would welcome their presence. But it was no use having country members on their various committees if they did not, or could not, attend the meetings. So far as his experience went every suggestion, no matter how unimportant or otherwise, made by country members received the fullest attention of the Committee, and he hoped that they would, whenever possible, attend the meetings. As he had said, they will be accorded a hearty welcome, and every suggestion they make fully considered.

Mr. R. Ballantine, Chairman of the Committee, proposed "The Health of the President," and in doing so paid a tribute to Sir Edwin Saunders and Lady Saunders. Responding, the President briefly thanked those present for the enthusiastic manner in which his health had been drunk, and said that he would endeavour to do his best towards the Society so long as he was able.

Mr. W. Herbert Fowler gave "The Royal Aquarium and Summer and Winter Garden Society," to which J. W. Wilkinson, Esq., responded.

The Chairman proposed "The Visitors," and in responding Sir Henry Doulton remarked that to him gardening appeared to be one of the purest and most pleasant pursuits imaginable. It was really wonderful to see the interest which poor people take in the culture of flowers, and many would trudge miles to see a display of Chrysanthemums.

Dr. Walker rendered "The General and Floral Committees," Messrs. A. J. Veitch and G. Gordon responding.

"The Horticultural Press" was proposed by Mr. G. J. Ingram, and responded to by Mr. B. Wynne.

The prizes, including the Society's challenge shield, cups, and medals, won during the season were distributed to the respective winners, and aided by a capital musical entertainment a most enjoyable evening was spent.

ECHEVERIA SECUNDA GLAUCA.

As an edging to all kinds of summer bedding this Echeveria is useful and effective, and for tracing designs on carpet and succulent beds it is indispensable. It is a pity that the plants are not sufficiently hardy to pass through our winters out of doors, as in most places it is difficult to find shelter for several thousand plants of this class. They can be wintered successfully in cold pits, but there is a danger of losing them wholesale from damp during long spells of severe frost, when they have to remain covered for a long time. We winter thousands of them in

an outhouse, from which frost is excluded, by placing them on slated shelves and stringing them in the same way as Onions are often treated. We used to keep them in sandy soil, but found that was not at all necessary, as they were not so liable to damp and kept just as plump if merely placed close together on shelves. The principal disadvantage of keeping them in sheds is that in periods of mild weather they start growing, and from want of light and air the leaves are so thin and devoid of substance that when planted out in spring the plants suffer very much, many of them losing their leaves to the centre. This can be partially avoided by admitting abundance of air during mild weather and by giving them all the light possible.

In order to secure even-sized plants for tracing carpet beds seeds should be sown at once on fine sandy soil in well drained pots or seed pans, and the plants grown through the winter on a greenhouse shelf close to the glass. Abundance of new seed can now be secured from old plants that have been allowed to flower, and this will germinate much quicker than old. The seed pods should be dried and then rubbed through a hair sieve, but as the seed is so very fine no attempt should be made to clean it. It is best to give the soil a good watering before sowing, so as to avoid if possible having to water it after the seed is sown. The seed must be only very slightly covered with soil; indeed, it is not necessary to cover it at all, but a piece of glass should be placed over the pan so as to exclude air and thus preserve the surface soil of a uniform dampness. Place the pan in a shady place, either in a cold frame or greenhouse, and if the soil becomes dry before the seedlings are established it should be moistened by standing the pans in water deep enough for the latter to rise to within 1 inch of the surface of the soil. When the plants are large enough they will require pricking off first into 5-inch pots, and later on into shallow boxes, always using light sandy soil and providing plenty of drainage. If the seedlings are grown through the winter in a warm greenhouse and early in spring carefully hardened they will make useful plants for tracing designs or edgings in May.

The larva of the beetle *Otioryncus sulcatus* sometimes attacks this *Echeveria*. Last year we lost many hundreds of plants through its ravages alone. The female appears to deposit her eggs between the base of the plant and the roots, and as soon as they are hatched the larvæ commence eating their way through the centre of the stem until they reach the heart of the plant. Insecticides strong enough to destroy them cannot be used whilst the plants are growing, but much may be done when the latter are taken up by cutting away the affected stems and burning them. If possible, a few inches of the surface soil where badly affected plants have been growing should be taken away and burnt. A sharp look-out should be kept for the beetle in spring. It belongs to the great weevil family, and can be generally known by the head, which is produced in a rostrum. The abdomen is large and long in proportion to the thorax. In the present species the elytra is brownish black, irregularly splashed with greyish-yellow spots, and is about three-eighths of an inch long.—J. H. W.



FRUIT FORCING.

Peaches and Nectarines.—*Earliest Forced House.*—Although a moist genial condition of the atmosphere assists the buds in swelling, and their scales are more freely burst by the developing blossom when the trees are syringed, it must not be practised to the extent of keeping them constantly wet, for an excess of moisture has a weakening tendency. An occasional syringing is all that is necessary when the weather is moist, the border being properly moistened and the surface damped when it becomes dry. In bright weather the trees may be syringed in the morning and early in the afternoon, until the colour of the blossom can be discerned. Maintain a genial condition of the atmosphere by sprinkling available surfaces other than the trees in the morning and early afternoon. The atmosphere must not then be kept so close, as it is essential that the blossoms come on steadily, and have time to develop a strong flower, perfect in all its parts. If the blossom buds are too numerous rub off those on the under side or at the back of the trellis; a gloved hand drawn the contrary way of the growth will do this expeditiously. Allow a little ventilation constantly; commence to increase it at 50°, above which it should be correspondingly enlarged, but not permitting a decline below 50° in the daytime, sufficient artificial heat being employed to raise the temperature to 50° shortly after daybreak, and maintain it at that during the day. With sun heat an advance may be allowed to 65°, but only with free ventilation, and close for the day before the temperature has receded to 55°. Avoid a close moist atmosphere, also warm at night, a temperature of 40° to 45° being ample in cold weather and 50° when mild. Supply water to inside borders, so as to moisten the soil through to the drainage; but where the roof lights have been off until the trees were started the border will not need any until the fruit is set or later.

Second Early House.—This is usually started at the new year. If it contain Alexander and Early Louise Peaches, the fruit will ripen in May without need of hard forcing; if planted with Stirling Castle or Royal

George Peaches and Elruge Nectarine their fruit will not ripen before June. If the roof lights were removed when the growth was matured, they should now be replaced, and the pruning, cleansing of the house, dressing the trees, tying them to the trellis, and top-dressing the border effected. The borders will be moist enough, but a sprinkling of bone meal three parts and one part sulphate of potash being given, in mixture, at the rate of 4 ozs. per square yard, wash it in moderately. Inside borders under fixed roof must be made thoroughly moist, soaking again and again with water so as to moisten every particle of soil down to the drainage, and if the trees are weakly follow the watering with liquid manure. Protect the outside border with dry leaves and a little litter, a few inches thickness sufficing. Exclude frost, employing fire heat only to effect it, and ventilate fully at and above 50°, forcing not being commenced before the new year.

Succession House.—It is much the best plan to remove the roof lights and expose the trees to the elements for the winter. This is an excellent practice, for the coddling of Peach and Nectarine trees in a house kept above freezing point to insure safety for plants is antagonistic to the production of fruit by depriving the trees of that rest they are naturally accorded. It is not safe to remove the roof lights when the wood is soft and unripe, as it is then liable to damage by frost. Trees with that kind of wood set the fruit badly, stone it worse, and are always ailing something. They are radically wrong, generally at the roots, and lifting is a panacea for such ills. Exposure also aids the trees to retain their blossom buds, and the flowers attain to a much finer development than attends trees that are kept in alternating excitements and checks under glass. Even if there are no plants and the house is fully ventilated, the trees are kept constantly evaporating from the young wood when that is not checked by frost, and it can only aid trees that have unripe wood and are liable to suffer in severe winters. Proceed with the pruning, bringing matters in that respect, cleansing the house and trees, to as speedy a conclusion as possible. Houses with fixed roofs should be ventilated to the fullest extent in all but very severe weather, the hot-water pipes having had the water run off.

Figs.—*Earliest Trees in Pots.*—Early Violet, St. John's, and Angélique are the best for early work, the fruit being small and good, and in use several days before those of the two best of Figs for any purpose, namely, Brown Turkey and White Marseilles. A commencement should be made at once to have fruit of the first three ripe early in April, and of the two last-named at the end of that month, or early in May. The trees must have been well prepared for early forcing, not allowed to bear a heavy second crop of fruit, but have the points of last season's wood well stored with matter and bristling with embryonic Figs. They must also be clean and healthy. If the trees are not yet started dress them with an insecticide, taking care not to rub off the young fruit nor damage the shoots. Place the potted trees on pillars of loose brickwork, so that they may not settle with the fermenting material, and only have sufficient of the latter so that the heat about the pots does not exceed 65° until the trees are fairly in growth; but when the leaves are unfolding the bottom heat may be increased to 75° or even 80° at the base of the pots. Start with a top heat of 50° to 55° at night and 65° by day, gradually raising the temperature to 60° at night, 65° to 70° by day, but 5° less all round in severe weather, 70° to 75° with sun heat and moderate ventilation when the leaves appear is not too much, closing at 75°. Be careful, however, not to bring on the trees too rapidly, especially in dull weather, as foliage produced under such conditions is flabby and liable to scorch under bright sun and invite red spider and scale. Sprinkle the trees and house in the morning of fine days and again early in the afternoon to allow the foliage to become dry before night, and the floor can be damped later in the day if it has become dry. Supply water to the roots to keep the soil evenly moist, but not making it sodden, and not less in temperature than that of the fermenting material about the pots.

Fig Trees in Borders.—These are less under control than those in pots, and are not so certainly early forced, because the warmth encourages top growth before the roots are in a position to sustain it. They may, however, be started at the new year to supply fruit at the end of May and in June. The trees must be pruned, if not already attended to in that respect. Cut back the shoots that have attained to the limits of the trellis to where the successional shoots start, in order that they may occupy their places in the ensuing season, and thin out the crowded growths, also remove all long and bare limbs so as to give room for young and fruitful growths. Cut away entirely all elongated spurs, retaining only the short-jointed and promising where there is room for them. Loosen the trees from the trellis, thoroughly cleanse the woodwork with soap and water, the glass inside and outside with clear water, scald and limewash the walls, adding a handful of flowers of sulphur to each pailful of limewash, wash the trees with soft-soapy tepid water with a brush, doing this effectually, and taking care not to break the growths nor rub off the scarcely visible first crop Figs, then dress them with an insecticide. When this is completed tie the trees to the trellis so as the growths can swell without injury from the ligatures. Remove the remains of mulchings and the loose surface soil, and top-dress with a couple of inches thickness of good turfy loam, mixing with it a fourth of decayed manure and a 10-inch potful of bonemeal to every three bushels of the compost. Keep the houses dry, freely ventilated, and merely exclude frost, but a few degrees of that will do no harm.

PLANT HOUSES.

Epacris.—Any plants that only made puny growth during the past season and are healthy, as well as those that have not ripened their shoots sufficiently to flower profusely, may be cut well back. If done at

once such plants will start early, and invariably make vigorous growth next year. Keep plants subjected to this treatment in the greenhouse, and maintain a cool airy temperature.

Erica hyemalis.—Home-grown plants that are not going to flower profusely may have all the strong shoots cut nearly close back. Any young growths that are not more than 1 or 2 inches in length may be left as they are and allowed to extend. Plants treated in this way last year have flowering shoots upon them nearly 18 inches in length. Purchased plants generally do better the second year than the first after flowering. To flower the plants even satisfactorily the first year they must be potted as soon as they have started into growth.

Erica autumnalis (gracilis).—This is hardly worth retaining after it has flowered once. When grown with *hyemalis* we have never been very successful with it owing to it being so badly attacked by mildew. It can be grown fairly well, however, if given a place where the atmosphere is dry and abundance of air can be continuously maintained. A close atmosphere even for a few days means partial ruin to the plants. Be careful that none of these plants are allowed to become dry at their roots or they will be ruined.

Azalea indica.—One of the greatest evils these plants have to contend against is keeping them too dry at their roots during the winter months. At no season of their growth should they be allowed to become dry; once this occurs their silk-like roots quickly perish. Plants that are confined for years in their pots usually lose a very large percentage of their foliage owing to inactivity at their roots. Those that are repotted from time to time as they need more root room have darker and bolder foliage, which they retain well throughout the winter. Plants also that are potted in loam, leaf mould and sand, have better foliage, and make more vigorous growth than those potted in peat and sand. Destroy thrips directly these pests are observed. Syringe the plants well at least once a day when the weather is favourable. Complete the tying of these plants as early as possible.

Camellias.—Continue to give those that are swelling their flower buds, and are confined in pots, weak stimulants every time they need water. Syringe freely all plants that are being gently forced into flower, and maintain a moderately moist atmosphere about them.

Double Primulas.—Place these close to the glass, where they can enjoy rather a dry atmosphere and a little warmth. Air must be admitted daily to prevent their damping, which they quickly do when closely confined. Very small plants should be kept on a shelf, and any flowers they produce ought to be removed as they appear.

Mignonette.—Plants in 5-inch pots must not be allowed to become crowded; thin them out to five or six in each pot. Keep the plants perfectly cool, and as close to the glass as possible. Do not allow them to suffer by an insufficient supply of water, or their foliage will soon turn brown. Trained plants that have their pots full of roots may have a little artificial manure applied to the surface of the soil at intervals of a fortnight.

Zonal Pelargoniums.—Plants that have been kept as cool as possible may be placed in a temperature of 60°, when they will quickly come into flower. Be careful not to overwater these plants, or they will start into soft growth instead of flowering freely. Damp must be expelled from the house by the admission of air whenever the weather is favourable. At this period of the year the plants do well standing on a moderately dry base with the atmosphere as dry as possible. Not only are the flowers liable to damp, but the foliage as well, if too much moisture is kept about the plants.

Bouvardias.—Those that have been retarded by keeping them in the greenhouse may now be introduced into gentle warmth. The plants must be kept growing if they are to continue flowering. Water carefully, but give applications of artificial manure to the surface of the soil occasionally.

Justicia flavicom.—This plant should now have a temperature of 50° to 55°, in which it will open its beautiful plumes of bright yellow flowers. After the plants have flowered once do not throw them away, as they will come into flower a second and even a third time. This is a capital plant for a conservatory where a little warmth is maintained.

Acalyphas.—The leaves are falling from these where they have been kept in the conservatory, and only ordinary temperatures maintained. The plants may be cut back to within 2 inches of the soil, and if placed in a temperature of 60° and kept on the dry side they will soon break into growth. When about 1 inch of growth has been made the plants may be reduced and potted in the same size pots, or if they are only in small pots the drainage can be removed and the plants given a small shift. Cut-back plants with three or four shoots make excellent bushes.

Crotons.—Plants that become damaged by use in rooms and are needed for stock may be cut close back, and if the soil is kept rather dry the plants will soon break into growth and yield good cuttings. If a large stock of any particular kind is needed do not cut them down too closely.

TRADE CATALOGUES RECEIVED.

H. & F. Sharpe, Wisbech, Cambridgeshire.—*Seed Potatoes.*
Putz & Roes, Erfurt, Prussia.—*Flower and Vegetable Seeds.*
Herb & Wulle, Naples, Italy.—*Flower and Vegetable Seeds.*

THE BEE-KEEPER.

APIARIAN NOTES.

GARDENERS AND BEES.

I HAVE the honour of being on intimate terms with many ladies and gentlemen who keep bees and value their produce as much as they do the finest Peaches or Grapes. In some cases the bees are cared for entirely by their owners; but in others they are entrusted to their gardeners. Now, many gardeners regard the bees with indifference, being of secondary importance, which is a mistake. The majority of the class referred to are not only pleased with honeycomb, but proud because it is from their own bees and the gardener's management. Some gardeners are alive to that, and do all in their power to make the most of them for their employers' good.

FEEDING BEES IN WINTER.

I have received several letters referring to bees being still unfed. Deep snow and keen frost prevail now, keeping bees within doors. I have fed bees throughout a severe winter with syrup only; but the feeders were put on or under the bees during mild weather, and they were accustomed to it, feeding a little only when required. The bees never attempted to fly much, and so the experiments were satisfactory. "G. P.," a reader of this Journal, has applied for advice, whether it is too late to feed bees. It is certainly too late to postpone feeding till this late season; but, as above hinted, if the bees are in want it is never too late to feed them.

METHODS OF FEEDING.

The best way to feed now is to give a piece of honeycomb right over the cluster. A very small piece will do. Feeding with syrup, as a rule, may be safely practised from the middle of January and onwards. If the bees are in frame hives carry them into a dark room, and remove several empty combs by using carbolised paper. Do all this in the dark, or with a lantern that can be instantly darkened, so that the bees do not fly nor leave the hive. Fill the combs with syrup (Howard's plan) by dipping them slowly into it and then replace. Do not confine the bees, but let them remain in that position till the weather is calm and mild, at a temperature of 50°, or near that. The next best plan is to feed with candy right over the cluster. If the bees are in straw hives feed with candy only.

A CHEAP FEEDER.

Your correspondent asks for a feeder. Messrs. G. Neighbour and Sons, 127, High Holborn, will supply what is wanted. Their feeders have a perforated tin covering. I prefer a wooden or cork float or spars, also in two pieces. The following is the way to make a useful and cheap feeder:—Take a tin scoop about 10 inches long by three-eighths deep with turned-over edges, and any width to suit the fancy; 2 inches on legs is sufficient. The outer end should be made so that it closes the upper part of the entrance.

FOUNTAINS.

This may be a jar, glass bottle, or a tin. When the latter is employed an old powder-flask with a thimble requires no preparation other than to fit a piece of cork into the neck. Burn a hole with a wire through the centre large enough to let the syrup flow, but not so large as to let bees inside. Of course allowance must be made for the valve, which is simply a saw-handle screw, or common one let into a piece of lead. I use both sorts, and oil-can screws, instead of cork. The cork is, perhaps, the better of the two, as it is easily inserted or drawn out. An inch is a good width for the neck or thimble. The latter is passed through a hole in a wooden cover at the end of the trough outside the hive till its orifice is a little under top edge of trough, which should be either let into the block or filleted round to prevent stronger bees getting at the syrup. The size of the wooden cover depends upon the fountain, 6 inches square would do for a feeder holding from 6 to 10 lbs. of sugar.

PUNIC BEES.

As I am anxious to gather all the reliable information about these bees that I possibly can, will "C., Northumberland," kindly say whether the yellow colouring of the combs sealed by the Punic bees resulted from propolis or pollen? Of all the combs of Punic bees I have ever witnessed one case only came under my observation slightly propolised; other supers from them were paragons of beauty.

"C., Northumberland," states one good point of the Punic bees that many inexperienced persons denied, viz., the bees have gathered

and sealed honey which I presume was in supers. It is nothing unusual to see supers from one hive coloured while those of the same breed are beautifully pure. The difference depends on circumstances I have previously explained, and may do so again if required.—A LANARKSHIRE BEE-KEEPER.



* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Primula obconica (J. H. W.).—We have seen many flowers as large as those you have sent, though perhaps not quite so well coloured. Continue your experiments and selections and you may obtain a more distinct advance another year.

Mushrooms in Boxes (A. L.).—A few days after inserting the spawn good loam should be spread on the surface and beaten down firmly to 1 inch in thickness, and hay spread on the soil to prevent the moisture escaping from it. Mushrooms grow well in a temperature of about 55°, a few degrees more or less simply accelerating or retarding their growth.

Variegated Elder (J. H. V.).—The leaf you send is too withered for its true character to be comprehended. The markings are probably faded now, and would be brighter and clearer during the period of growth. We have frequently seen variegated Parsley. If yours give you pleasure by all means grow the variety. We have previously heard of the variegated Tree Mallow reproducing itself from self-sown seed.

New Chrysanthemums (Constant Reader).—You cannot obtain more reliable information than is imparted by Mr. Molyneux in his descriptions of new varieties of Chrysanthemums. The first instalment of his matter appears in the present issue (page 509) and the remainder will follow in due course. When you stipulate for a certain number of varieties you must name the proportions you desire of the different sections, or a satisfactory reply cannot be given.

Grapes Faulty (E. J.).—The Grapes are rusted and blotched, and, though they shrivel off sweet, the stem of the bunch is shanked. The Vines must be in a bad condition, as the wood is weak, unripe, and discoloured, with the buds long and pointed. Probably the border is defective. Make an examination, and it may be found that the drainage is not efficient, or the soil has become too close and sodden. In that case the Vines should be lifted, efficient drainage provided, and the roots laid in fresh compost near the surface. In the absence of particulars we are unable to further advise you. You do not mention their age, distance of training, nor, indeed, describe them in any way to enable us to assist you satisfactorily.

Cutting Yew Trees and Hedge (Welshpool).—The best time to cut a Yew tree is when the fresh growth is about to be made, say during mild showery weather early in April. It may then be cut back to any extent, and it will push fresh growths and clothe the stems in a few months. If the hedge needs much cutting back it should be done about the same time, so as to allow of fresh growth being made quickly, and then irregularities can be cut away in August, which is the best time to clip Yew hedges annually. Yew is easily propagated from seeds, which should be sown in spring; the ripe fruits, after being gathered, should be mixed with sand and kept in a heap until sowing time. Many of the seeds will germinate in the first year, but the seed bed should be left two years, planting the seedlings in nursery rows in the autumn.

Raising Crab Stocks (May).—Crab stocks, so called, are raised by sowing the pips or seeds of Apples that are used in cider making, the seeds being separated from the pulp, washed, and dried. They should be sown as soon as they are available and the ground is in a suitable state, as they lose their vitality in a short time. If sown broadcast in beds the seeds must be thinly distributed, not covering them more than an inch deep with fine soil; but it is best to sow in drills an inch deep and 9 inches asunder; after depositing the seeds in them thinly cover with fine soil, and press close with the back of the spade. The situation should be open. In the autumn following the seedlings may be transplanted, placing them in rows about 3½ feet apart, and the plants

18 inches asunder in the rows, where they may remain until fit to bud or graft. True Crab stocks are obtained from seeds of the wild Crab.

Shortening Vine Canes (Tom Smith).—It would have been better if the laterals had remained, pinched at the first leaf, and to every subsequent sub-lateral leaf as made. That would have strengthened the canes, and the laterals could have been cut off when the foliage was turning yellow without starting the main buds. We should cut back the canes two-thirds of their length, and allow the part left to bear fruit next season, taking the bearing shoots, commonly termed laterals, from them at 15 to 18 inches apart along the canes, and allow each to bear a bunch of Grapes. From the extremity of each rod let a continuation cane issue and grow to within 2 feet of the length of the house before stopping it, keeping the laterals pinched to one leaf as made. The canes can be shortened one-third of their length another autumn, and being depressed every bud to their base will break. This plan is only advised where the object is to get rid of the old rods quickly, as you will be able to do in the year following, cutting off the old spurs so as to give the bearing shoots on the new rods space as they require it. It would have been more to the purpose to have stopped the present year's growths at 10 feet, pinched the laterals, and thereby strengthened the canes.

Destroying Mealy Bug on Vines (An Old Subscriber).—There is no winter dressing that is a sure remedy if applied to Vine rods only, for the pest hibernates in cracks, crevices, and beneath the old bark of the rods, also in those of the woodwork of the house, so that the difficulty is to reach the insects. Winter dressings, however, are good deterrents, provided the house be thoroughly cleansed. After removing the loose bark, but not peeling and scraping the Vines into the quick or live bark, they may be well washed with a solution of the compound named (Gishurst) at the rate of 4 ozs. to a gallon of water, applying with a brush, and reaching well into every angle, crack, crevice, and hole of the Vine rods, spurs, and stem. Repeat the washing as soon as the Vines are dry. Keep a sharp look-out for the mealy bug in early summer, and if any are found touch each with a small camel-hair pencil dipped in methylated spirit. But it is not only Vines alone that the insects secrete themselves, and that is why we say dressing the rods alone is only partially effective. The enemy lurks in all sorts of obscure places, especially where dry, such as on the under side of stages, in the soil near dry walls and hot-water pipes, on various plants, sticks, or flower pots, and fissures everywhere. It is to these that attention must be directed, as well as to Vines. It is not so much a question of any particular applications as of thorough methods of searching for and finding the insects, as when reached they are easily enough destroyed. One of the best methods of preserving and increasing the stock of mealy bug is to allow the leaves of Vines that are infested to shrivel and fall in the house, instead of removing them by hand when ripe and burning them. By this simple method thousands of insects have been destroyed.

Water from Colliery (Aqua).—The water is only very slightly saline or alkalic, and in neither respect injurious to vegetation, but you do not seem to have tested it for acid—that is, saturated blue litmus paper with it, which, if it contained an acid in excess, would turn red. Gypsum is of no use where there is not an excess of alkali, and the softness of the water is no barrier to its use for horticultural purposes. An alkali is the best neutraliser of acid, but nothing can be safely done in the case of impure water without an analysis and scientific guidance. Colliery water, however, is not as a rule injurious, pitmen and their families having to rely upon it solely in many localities. If you filtered it through charcoal it might be freed of its injurious properties, probably organic acids, as we have found peaty and bog water that was injurious to plants become quite clear (white), and not baneful when passed through charcoal beds alternating with layers of gravel. A safe manure for Azaleas and Rhododendrons is cow excreta, 1 peck, scalded in boiling water, then put in a bag, adding enough water to make 20 gallons, stirring well occasionally, and using the liquid when it is clear. Standen's, Thomson's, and other manures are good, but they must be carefully used, as a strong dose destroys the hair-like roots.

Double-glazed Greenhouses (H. G. M.).—The principle of double-glazing greenhouses was much advocated over thirty years ago as likely to economise fuel or heat, insure a more equable temperature, and lessen the injurious effects of the sulphurous laden fogs so prevalent in or near large towns and manufacturing centres. It was adopted in a few instances, but apart from the expense, it was found that what was saved in artificial heat was more than counterbalanced by the loss of solar heat through the refraction of the rays. Another objection was that the inner glass surface became coated with dust, and greatly obstructed the light and heat, so that, unless the upper surface or outside lights were moveable, and the inner surface kept clean, the light was only sufficient for Ferns and similar plants requiring a uniform temperature and moderated light. Double-glazing is not suitable for flowering plants and fruit trees, but it might be useful during the worst four months of the year (November to February inclusive) in large towns as a safeguard against fogs; indeed, it has been so used with advantage, the outer lights being moveable and so tight fitting as to exclude the baneful fogs. Double-glazed roofs are not a panacea for drip, for that is caused by the condensation of the moisture the air contains when brought into contact with cooler surfaces, and the inner glazing is only in a degree less cold than the outer, therefore the drip is only moderated. Grooved sash-bars are the best preventives of drip, as they carry off the condensed water to the bottom of the rafters or sash-bars, where it can do

no harm. The grooved sash-bars are supplied by most horticultural builders. Roof-heating is also a good preventive of drip, especially in frosty weather.

Making Charcoal (Nemo).—Charcoal is prepared by piling billets of wood in a pyramid form, with vacuities between them for the admission of air, setting fire to them, and covering them with earth. To carry out the work properly some practical knowledge is necessary, for though an inexperienced person can make charcoal, economy in the manufacture of it depends on the attention and adaptability of the operator to circumstances. The practised "charcoal burner" will so regulate the heat that the least yet necessary part of the combustible substance is consumed, part volatilised, together with a portion of water, so that there remains behind the largest portion possible of the carbon of the wood, retaining the form of the ligneous tissues. We have found it cheaper to buy than to make charcoal by unskilled hands. Charcoal is also made by heating the wood in close vessels (retorts or kilns), by which the volatile parts are driven off, the charcoal remaining in the retorts; it is not so dense as that obtained by the other process. The charcoal of chemists is more carefully prepared—deep black (not brown) in colour, brittle, porous, inodorous, and tasteless. Owing to its porous nature charcoal absorbs a large quantity of air or gases at ordinary temperatures; that made from heavy wood 90 times its volume of ammoniacal gas, 85 hydrochloric acid, 35 carbonic acid, 9.25 oxygen, and 1.75 of hydrogen. Charcoal, in absorbing effluvia and gases, is useful as a manure. It is one of the most indestructible substances known, and has no injurious effect on the roots of the most delicate plant, those of Orchids often clinging to it better than to anything else. The quantity to apply, crushed or in lumps, to the soil for plants may vary from a sixth for Orchids to a sixteenth for Heaths, a 9-inch potful answering well for 3 bushels of compost for fruit trees. As a manure its value rests on absorbing carbonic acid and other gases, yielding them up to the plants as required for nourishment. About 40 bushels of charcoal dust is a proper dressing per acre, applied in early spring or when the crops are appearing above ground as a top-dressing. Of course Vines are checked by lifting, the extent of the check depending on their condition and the skill of the operator. Many Vines have been greatly improved by the process when properly carried out.

Names of Fruits.—*Notice.*—Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing.* The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. (*J. F. D.*)—The Apple is no doubt Little Herbert, and is not of first-rate quality. The Pear is Lewis, a variety of American origin. (*W. J. Bligh*).—1, Old Hawthornden; 2, Beauty of Kent; 3, Alfriston; 4, Blenheim Pippin. (*W. S. Payne*).—50, Ross Nonpareil; 32, Waltham Abbey; 16, Blenheim Pippin; 53, Cellini. (*J. D.*).—1, Fearn's Pippin; 2 and 3, not known, worthless; 4, a wilding; 5, too much decayed; 6, Napoleon.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (*C. O.*)—The specimens are much too small to identify with certainty. They are probably as follows:—1, *Opuntia microdasys*; 2, *O. leucotricha*; 3, *Euphorbia Caput-Medusæ* (?); 4, *Echinopsis Eyriesi* (?); 5, *Aloe glauca*; 6, *Haworthia cymbiformis* (?).

COVENT GARDEN MARKET.—DECEMBER 7TH.

Trade slow, good supplies with no alteration in prices.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, half sieve	1	0	to	3	Lemons, case	15	0	to	35
" Nova Scotia, per					Oranges, per 100	4	0		9
barrel	12	0		17	Peaches, per dozen	0	0		0
Cobbs, Kent, per 100 lbs.	0	0		100	St. Michael Pines, each ..	3	0		6
Grapes, per lb.	0	6		2					

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beans, Kidney, per lb. ..	0	6	to	0	Mustard and Cress, punnet	0	2	to	0
Beet, Red, dozen	1	0		0	Onions, bunch	0	3		0
Carrots, bunch	0	4		0	Parsley, dozen bunches ..	2	0		3
Cauliflowers, dozen	2	0		3	Parsnips, dozen	1	0		0
Celery, bundle	1	0		1	Potatoes, per cwt.	2	0		5
Coleworts, dozen bunches	2	0		4	Salsafy, bundle	1	0		1
Cucumbers, dozen	1	6		3	Scorzonera, bundle	1	6		0
Endive, dozen	1	3		1	Seakale, per basket	3	0		0
Herbs, bunch	0	3		0	Shallots, per lb.	0	3		0
Leeks, bunch	0	2		0	Spinach, bushel	3	0		3
Lettuce, dozen	0	9		1	Tomatoes, per lb.	0	2		0
Mushrooms, punnet	0	9		1	Turnips, bunch	0	3		0

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.

Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	3	0	to	6	Orchids, per dozen blooms	3	0	to	12
Bouvardias, bunch	0	6		0	Pelargoniums, 12 bunches	8	0		12
Carnations, 12 blooms ..	1	0		3	Pelargoniums, scarlet, doz.				
Chrysanthemums, dozen					bunches	6	0		9
blooms	1	6		4	Poinsettia, per bloom ..	0	4		0
Chrysanthemums, dozen					Primula (double) 12 sprays	0	6		0
bunches	6	0		12	Pyrethrum doz. bunches ..	3	0		6
Eucharis, dozen	3	0		6	Roses (French), per doz. ..	1	6		3
Gardenias, per dozen ..	2	0		4	" boxes, 100. ..	5	0		3
Hyacinth, Roman, 12 sprays	0	9		1	" (indoor), dozen ..	0	9		2
Lilac, white, French, per					" Red, per doz. blooms..	1	0		2
bunch	4	6		6	" Tea, white, dozen ..	1	0		2
Lilium longiflorum 12					" Yellow, dozen	2	0		4
blooms	9	0		12	Tuberose, 12 blooms ..	0	4		0
Lilium (var.) doz. blooms	3	0		5	Violets, Parme, Freuch, per				
Lily of the Valley, 12 sprays	5	0		10	bunch	3	0		4
Maidenhair Fern, doz. behs.	4	0		6	Violets, Czar, French, per				
Marguerites, 12 bunches ..	2	0		4	bunch	2	0		2
Mignonette, 12 bunches ..	3	0		6	Violets, Victoria, Freuch,				
Mimosa, French, per bunch	1	0		1	dozen bunches	1	6		2

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (golden) dozen	6	0	to	12	Ficus elastica, each	1	6	to	10
Begonia, per dozen	6	0		12	Foliage plants, var., each..	2	0		10
Chrysanthemums, per doz.	6	0		9	Heliotrope, per dozen ..	6	0		9
" large plants, each	1	0		3	Lycopodiums, per dozen ..	3	0		4
Cupressus, large plants, each	2	0		5	Marguerite Daisy, dozen ..	6	0		12
Dracæna terminalis, dozen	18	0		42	Mignonette, per dozen ..	6	0		12
" viridis, dozen ..	9	0		24	Myrtles, dozen	6	0		9
Euonymus, var., dozen ..	6	0		18	Palms, in var., each	1	0		15
Evergreens, in var., dozen	6	0		24	" (specimens)	21	0		63
Ferns, in variety, dozen ..	4	0		18	Pelargoniums, scarlet, doz.	6	0		9
" (small) per hundred	6	0		8	Primula, single, doz. pots	4	0		6
					Solanums, per dozen	9	0		12



SWINE.

INCLUSIVE of all classes, from porker to bacon, hog is the familiar old term of swine; that is our reason for using it now, as we desire to give a few useful hints on swine management once more. Never has the pig been held in greater respect than at the present time, for it has been so profitable this year that on farms where it is bred largely it has literally proved worthy of Paddy's designation of "the gentleman that pays the rent." In common with other things in agriculture, swine are subject to cycles of extremes. Last year they were ruinously cheap to those who bred them; this year they have proved comparatively far above sheep or cattle in value, or in other words, they are highly profitable. How, indeed, could they be otherwise, with corn so cheap and pork so dear! Yet, in a recently published computation of losses in agriculture this year, £1,000,000 is stated to be the amount in round numbers lost to the farmer from a reduction of 5s. per head in the price of pigs!

The farmers' condition is bad enough, but such misleading and altogether erroneous statements will do nothing but harm to it. It is notorious that pigs have been dearer this year than for some time previously. In the paper containing the extraordinary statement which we quote, the market review said: "Pigs are dearer, if anything, especially for neat porkers, which are worth 7½d. or more in some markets"—an extraordinary and highly remunerative price per pound. The same review also said: "There is a fresh breeze of revival in all branches of the meat trade. There is a better feeling all round, and values are the turn better even for the better description of stores."

"Neat" porkers are now in much request, and there is nothing more profitable than compact, well-fed, well-bred porkers of about 50 lbs. weight, in the best dead meat markets. Mark the term "neat," which means to the dealer a compact chubby animal, carefully dressed for sale, tempting in appearance in the clean, healthy hue of its flesh and skin, in striking contrast to the dark colour and flabby texture of inferior porkers. At the home farm porkers are also wanted for home

consumption now and onwards till spring. Large hogs are also coming in now for the annual supply of bacon, and where a large number of flitches are required it is well to begin the pickling in good time. We always prefer smoked bacon, and as a general rule keep the bacon a month in pickle and a month in the smoke, taking care to use non-resinous wood, such as oak or beech, in the smoking house.

If mild-flavoured bacon is wanted it can be supplied during the winter by curtailing the time of salting and smoking, but we strongly advise home farmers not to attempt supplying mild cured bacon for summer, because of the risk of loss from the half cured flitches becoming putrid. All bacon, therefore, for use in the summer must be well salted and dried; it must also be protected from flies and be kept in a cool dry room. Hams should be placed in paper bags for the smoking, and be frequently examined for flies or maggot in the bacon room. Very seldom indeed do we meet with a fine-flavoured ham, which is a very different thing to the ordinary ham pickled in brine. Here is the recipe which we published some years ago in the *Journal of Horticulture*:—For a ham of 20 lbs. take 2 lbs. of common salt, 3 ozs. saltpetre, 3 ozs. bay salt, 3 ozs. shallots, 1 oz. coriander seed, 1 oz. juniper berries, 4 lbs. treacle, $\frac{1}{2}$ lb. beef suet. With these ingredients make enough pickle to cover the ham, turn it every day for a month, then smoke for another month, when it should be ready for use at once, or it may be kept for a year suspended from a hook in the bacon room. The delicious flavour of hams so cured is indeed a revelation to those who taste them for the first time, and we cordially commend the recipe to the notice of new readers of the Journal.

Breeding should go steadily on the year round from the time young sows are six months old. Never keep large heavy sows; they consume enormous quantities of food, become unwieldy, crush many of their progeny to death, and are altogether undesirable. They fatten readily enough, command a good price, and should always be sold. The period of gestation is sixteen weeks, so that it is an easy and quick affair to raise a large stock of pigs, and under good management they contribute materially to the profits of dairy farming, perhaps more so now than they have done for a long time. Cheap corn mixed with milk is the food to promote a healthy quick growth. Pigs of all kinds are much in request, and a considerable surplus over home requirements is now most desirable, both of porkers for market and store pigs of six or eight weeks old.

WORK ON THE HOME FARM.

Tenants of small dairy farms do not keep enough heavy horses for carting much beyond milk and fodder. It has therefore been a boon for them to have the yards and surroundings of their homesteads regravelled by the landlord. With this work the yard drains have also been examined and repaired, unsound roofs made waterproof, interiors of cow hovels, piggeries, and stables whitewashed, woodwork of rough buildings tarred, and of superior buildings painted. Fences and gates have also been repaired or renewed. New hovels for cattle are in course of erection out on pasture as well as near yards. For such buildings preference is given to corrugated iron sheeting for the roofs and sides, which rest on a few courses of brickwork, with iron piers and bracings. The feeding manger, or "foost," as it is called in the Midlands, is of brickwork; the floor is also of brick paving, which is certainly not so slippery as cement concrete; but the latter is the more cleanly. These corrugated iron buildings have curved roofs, are low, compact, yet fairly commodious, and are well ventilated; they are the speciality of a Liverpool firm, and we are much pleased with them.

Each hovel opens into a yard enclosed by a fence of the corrugated sheeting securely fastened to a stout frame, which makes a thoroughly snug enclosure for cows or store cattle, which have thus shelter from both wind and rain. The promise of these hovels led to the building of hayricks close by in anticipation of winter requirements. With hay already up to £6 per ton, there are anxious forebodings of food difficulties if the winter proves long and severe. The new hovels and yards will certainly aid economy in feeding, as exhaustion and loss of tissue from exposure is at an end among the stock. Condition will be more easily sustained, and the food turned to better account than of yore.

Such a short supply of hay is a reminder of the folly of not having a few acres of every dairy farm under the plough. Rye, Rye Grass, Clover, Lucerne, mixed seeds, Sainfoin, green Maize, Cattle Cabbage, Thousand-headed Kale, root crops, and, above all perhaps, some Oats, and Oat straw would all be available then. The farmer who has three

or four large Oat stacks now need have little anxiety about small hayricks or a long hard winter, provided he has been so prudent as to keep the number of his live stock well within bounds.

ROOT AND SEED STANDS AT THE SMITHFIELD SHOW.

THE stands of roots and seeds at the Smithfield Cattle Show, which opened on Monday, December 5th, at the Agricultural Hall, Islington, were this year quite up to their usual standard. The Swedes and Mangel Wurtzel were especially fine, whilst in some cases Potatoes and garden root crops were well represented. Apples, too, in one or two instances were noticeable; though considering that fruit growing is now recognised as a panacea for agricultural depression, fruit was not so extensively exhibited as might have been the case.

Amongst other stands, that of Messrs. Sutton & Sons, Reading, made a most imposing display. Here we found Mangels, Swedes, and other roots in splendid condition. The Swedes and Mangels were arranged in collections, the varieties being Crimson Tankard, Intermediate, Oxheart Yellow, of Mangel, and of Swedes Crimson King and Champion were staged. The roots of all were remarkably clean and well grown. Messrs. Sutton also had a dozen varieties of their disease-resisting Potatoes, conspicuous among them being Windsor Castle, Satisfaction, Abundance, and Triumph. Cabinets of grass and agricultural seeds were also well represented in this stand. It may be of interest to mention that two of Messrs. Sutton's customers (Mr. R. H. Major, Langley, Slough, and Mr. E. Hobbs, Sonning) won two 20-guinea cups, which were exhibited on the stand.

Near the stand of the last named firm that of Messrs. J. Carter and Co., High Holborn, was situated. This, also, made a grand display, a splendid exhibit of Elephant Swede being most noteworthy. This is a stupendous root of a clean appearance. The Mangels were likewise particularly fine, the best being Warden, Yellow Globe, Golden Intermediate, Mammoth Long Red, and Improved Golden Tankard. The disease-resisting Potatoes shown by Messrs. Carter & Co. also attracted more than a passing notice, the tubers being clean, large, and of perfect symmetry. Growing examples of Carter's grass seed for laying down land for permanent pasture were likewise exhibited.

The stand of Messrs. E. Webb & Sons, Stourbridge, also deserves special mention. This was well arranged. Webb's new Swede, "Giant King," was exceedingly fine, the roots of this being of a large size and excellent shape. Potatoes were also well shown by this firm, Stourbridge Glory, a new main-crop kidney variety, being exceptionally good. Wordsley Pride, a second early kidney variety, was likewise noticeable, and the same may be said of other varieties. Seeds of various kinds were well represented in this exhibit.

Messrs. Dicksons (Limited), Chester, had a stand of natural Grasses and Apples, the latter being well grown and brightly coloured. Among other varieties Golden Noble, Mère de Ménage, Blenheim Orange, Lord Derby, Cellini, and New Bess Pool were most noticeable. Messrs. Harrison and Sons, Leicester, had a stand of roots, comprising Swedes, &c., in grand condition. Vegetables were shown by this firm, including Potatoes, Beet, Onions, Early Milan Turnip, and Carrots. Seeds were also well represented.

Messrs. J. Cheal & Sons, Crawley, were represented by a stand of roots, seeds, and a few dishes of Apples. The latter attracted considerable attention, the samples shown being large and brightly coloured. Messrs. Jarman & Co., Chard, made a display of roots, vegetables, and seeds, the Onions and Carrots being excellent.

There were, as usual, a large number of implements, and amongst others the stand of Messrs. Ransomes, Sims, & Jefferies, Ipswich, was noticeable.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1892. November and December.		Barometer at 32°, and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
Sunday ..	27	30.395	deg. 45.2	deg. 43.2	N.W.	deg. 43.8	deg. 49.3	deg. 40.9	deg. 67.2	deg. 33.7	Inchs. —
Monday ..	28	30.473	47.1	45.7	W.	43.5	50.2	41.0	52.9	33.0	—
Tuesday ..	29	30.124	50.0	47.5	S.W.	44.3	53.0	46.6	55.1	42.1	0.047
Wednesday	30	30.153	37.6	35.4	W.	43.9	43.6	35.6	68.4	30.9	—
Thursday ..	1	30.023	40.3	38.6	W.	41.8	50.0	33.3	50.3	28.9	0.440
Friday ..	2	30.167	32.6	32.2	S.E.	41.9	42.2	31.2	49.1	27.2	0.088
Saturday ..	3	29.6.6	42.2	42.2	N.E.	40.7	50.6	32.0	53.3	29.8	0.123
		30.143	42.1	40.7		42.8	48.4	37.2	56.6	32.2	0.698

REMARKS.

27th.—Fine and sunny almost throughout.
28th.—Overcast all day, fair evening.
29th.—Overcast morning; wet from 2 P.M. to 5 P.M.; bright night.
30th.—Unbroken sunshine from sunrise to sunset; cloudless night.
1st.—Overcast early; incessant rain from 11 A.M. to 6.30 P.M., dull and drizzly after.
2nd.—Unbroken sunshine throughout; lunar halo in evening; rain at night.
3rd.—Dull, foggy and drizzle early; steady rain from 10.45 A.M. to noon; some sun in afternoon and rain again at night.
An average week as regards temperature, with bright sun on some days; rain above average.—G. J. SYMONS.



IN most gardens there is now a considerable amount of space uncropped, and it should be decided at once when and what steps shall be taken towards preparing the ground for next season. Soils vary so surprisingly even before being much cultivated that no general rules as to their treatment can well be laid down, so much depending upon circumstances. Some land would be best let alone till near the time cropping is to take place, but other ought to be dug at once; in some cases bastard trenching would be beneficial, and ordinary trenching might advantageously be resorted to in others. When and what to use, if there is any choice, in the way of manures also require consideration, and soils may be greatly improved by the addition of a variety of other substances, soluble or otherwise.

HEAVY SOILS.—These are, perhaps, the most frequently met with, and under good cultivation they usually prove the most fertile. Heavy ground naturally consists largely of clay, and requires to be treated with the greatest judgment. When first taken in hand trenching of any kind had better be left alone, but the drainage ought to be perfected. As early in the winter as possible the ground should be dug with a fork to the full depth of the latter, and only partially decayed strawy manure, preferably from stables, freely buried in the trenches. This kind of manure is slow in decomposition, and acts mechanically in the direction of dividing naturally too close soils. Frosts, winds, sunshine, and rains will further break down or pulverise the roughly laid-up spits, and if a spring dressing of fine sandy soil, leaf mould, fine ashes, spent tan, peat, mortar rubbish, or burnt clay is forked in the improvement effected in a comparatively short space of time will be of a permanent character. Caustic lime applied at the rate of 1 ton to a quarter of an acre of ground is a very excellent form of dressing, either for heavy soils newly broken up or for any that have been freely manured of late years, and stand in need of correction. Place it in 4-bushel heaps, cover with soil till it is slaked, and then spread over the surface of ground that has been dug some few weeks in advance, and fork into the surface. Never bury lime deeply; it will find its way down quickly enough. The other substances, whether in mixture or separately, should also be well mixed with pulverised soil, and not deeply buried. After the top spit has been considerably improved, and exhausted of some of its fertility, the time has arrived for double digging, a process to be presently described. There are some soils that contain so great a per-centage of clay that it is scarcely possible to greatly alter their character quickly. In some few cases it is unwise to even dig them many weeks in advance of cropping, some clays when pulverised assuming the consistency and character of birdlime. The majority of heavy soils, however, should be roughly dug as early as possible in the autumn or winter, and if soon pulverised pay well for being forked over, without disturbing the manure underneath, in February or early in March; for often the surface is finely divided when cropped, but underneath are great hard and cold lumps, which remain in that state all through the summer. The second turning discovers and brings these to the surface to be pulverised. On no account interfere with retentive soils in wet weather, or the surface will be made pasty before it is turned in, and be years in recovering its original fairly open state. Nor should cowyard manure be used if that from horse stables can be

had. The former sours the land badly, making it heavier and colder than before its application; whereas strawy manure, as already stated, acts very differently. Chemical manures are far preferable to those of a solid nature obtained from milch cows more especially. All wheeling on heavy land should be done as much as possible either when it is frosted over or in a dry state, planks for wheeling on being necessary at all other times.

MEDIUM SOILS.—There are a great variety of these, and in many cases there is a good depth of free working, yet fairly retentive soil, which is improved by deep cultivation from the outset. As the soil would contain 20 per cent. or more of clay, often of a sandy or gravelly nature, it is yet inadvisable to be too hasty in bringing up much of the subsoil to the surface. First prepare it by bastard trenching and the admixture of decaying substances, such as vegetable refuse and solid manure of any kind, and then a reversal of the spits, if clay is not very abundant, may safely be attempted. Mixed farmyard manure is the best for these medium soils, and they will stand plenty of it. Being fairly retentive, too, the manure in a half-decayed state may be dug in now, and the surface of the ground laid up to be improved by, sweetened and perhaps broken down by frosts. A dressing of lime is usually required about once in seven years. Advantage should be taken of frosty weather to do all the wheeling necessary on these medium soils.

LIGHT SOILS.—Ground of a very free working character has its disadvantages as well as the rest. In particular sandy soils are far too non-retentive of moisture to be very fertile, and not till they have been greatly increased in depth and retentiveness will they ever be much more satisfactory. If the subsoil is not of a very chalky or gravelly nature much may be done towards improving the physical properties of the soil by first bastard and then ordinarily trenching it. Clay sometimes underlies these light sandy soils, and bringing about 3 inches of this, or even less, to the surface and well mixing with it, would completely change its character for the better. It is to the absence of clay that the poorness of light sandy soils is to be attributed. If either clay or marl can be obtained it would pay well to spread about twenty loads of this over a quarter of an acre of ground, doing this either before or early in the winter. It must be left exposed to all weathers till broken down to a finely divided state, when it should be forked into and mixed with, not buried under the surface soil. This admixture of clay or marl has the effect of at once making the ground more retentive of moisture as well as fertilising agents, including any that may be absorbed from the atmosphere. If no clay can be added it is not advisable to either manure or dig long before the ground is wanted for cropping purposes. Should the former be buried in the ground much before the roots of plants are there to assimilate the food thus placed within easy reach, the chances are much of it will be washed away down the drains and wasted. Better build the manure up into a square heap (it ought to be well decomposed for light soils), placing a layer of fresh soil underneath and another on the top, and thereby preserve its best properties and increase the bulk against the time it is wanted. Roughly digging or ridging light soils in the autumn or early winter is a mistake, for the simple reason that they are already too finely divided. Failing a dressing of clay or marl, collect a great heap of road trimmings, road scrapings, decayed garden refuse, and good cowyard manure; and a heavy spring dressing of this, or when the ground is dug, will serve to greatly improve its depth, retentiveness, and productive character.

BASTARD TRENCHING.—This process consists of breaking up the soil two or more spits deep without changing their positions, thereby increasing their depth and fertility without running any risks of bringing poor unworkable subsoil to the surface in injurious quantities. Some few soils, principally those of an alluvial or deposited character, may safely be trenched outright, but by far the greater proportion would be little short of ruined for years if

other than bastard trenched at the outset. Having a breadth of clear ground, now is a good time to bastard trench this, it being of importance that the mass should settle down considerably prior to being cropped. Commence by marking out a width of 30 inches across one end, and from this wheel the top spit and loose soil, or "shovellings," left in the trench back to the opposite end, or where it is intended to finish. In the bottom of the trench deeply fork either manure or other substances that will slowly decay and improve the character of the subsoil, well mixing it in. Mark out another 30-inch width, and deposit the top spit of this and shovellings on the top of the subsoil just previously broken up, and so on with similar widths till the breadth is completed, the last trench being completed by the addition of soil wheeled back. The shovellings are usually quite fresh soil, being loosened from just below where ordinary digging reaches, and the admixture of these with the somewhat stale, or it may be over-rich surface soil, gives it just the amount of correction needed. If of rather a clayey nature take an early opportunity of well mixing it with the top soil, or otherwise it may impede operations, especially in the way of seed sowing next spring.

TRENCHING.—Heavy ground that has been previously bastard trenched two or three times will most probably have the subsoil sufficiently well prepared for bringing to the surface, and some few naturally deep, free working soils there are which as before hinted may be trenched outright. It must be borne in mind that a spit of fresh clayey subsoil when first brought to the surface may run together badly, and be worked and cropped with the greatest difficulty for several years after. Trenching, therefore, ought not to be recklessly resorted to, especially on a large scale; experimenting on small plots being advisable, in order to prevent a huge mistake being made. Ordinary trenching should be commenced by first digging a trench 20 inches wide and two good spits deep, the whole of the soil being wheeled back to where the work is to be finished. Mark out the next 20-inch width, and from this dig and throw the top spit into the bottom of trench in front; on the top of this depositing the bottom spit of the second trench, leaving it in as rough state as possible for frosts to operate upon. Subsequent operations to be merely a repetition of this, the last trench being filled in with the soil wheeled back. In this manner the positions of the two layers of soil will be completely reversed, this operation greatly increasing the depth and productiveness of the whole mass, the fresh unexhausted soil being brought up where it can be better acted upon by the atmosphere, and be more within the reach of the sun's warmth and the roots of any crops growing upon it. When ground is being trenched for Rhubarb, Globe Artichokes, Asparagus, or any crop requiring a rich deep root run, plenty of solid manure or decaying vegetable matter may well be mixed with each spit, but for all ordinary crops no manure ought to be needed. —W. IGGULDEN.

SHOWING AND JUDGING HARDY FLOWERS.

ALLOW me to heartily thank you for giving prominence to Mr. Shanks' notes, and for your remarks thereon. I do hope we may have a few stirring letters on the subject, and that they may result in more explicit wording in the schedules of the various shows, and an extended love for and interest in "hardy border flowers." —A SHOWMAN.

THERE has been considerable difficulty at flower shows in dealing with classes described as hardy herbaceous plants. The principal difficulty is to decide what are hardy plants. This is in fact an indefinite expression, whether applied to plants which are hardy in one part of the country or the reverse in another, and even so in two gardens in the same neighbourhood, where the situation and aspect differs.

There are plants which grow out of doors in the Isle of Wight which could not be so grown in the north, and it would hardly be reasonable at a northern show to exhibit such a plant grown in a house in a class of hardy plants.

My suggestion is that in framing schedules this class should

be described as "Herbaceous perennials, grown in the open." This would, I think, obviate the difficulties in future. It would, of course, exclude hardy plants grown in a house, and I think they ought to be excluded.—B. (*Amateur*).

YOUR suggestion of "hardy border flowers" for "herbaceous" and perennial is good, but if you look at our Diss prize list, which I enclose, I think you will say that it is so clear that "he who runs may read." We have classes for annuals and for biennials and flowering shrubs, and these are excluded from the perennial classes. With Mr. Shanks I approve of varieties and not species, especially in the larger classes for thirty-six or twenty-four bunches, but I would consider two bunches of one variety in a class for twelve bunches not worth full points.—F. PAGE ROBERTS.

The following is the description of the classes sent by our correspondent:—Class 12, "Twelve Bunches of Annuals;" 13, "Thirty-six Bunches of Hardy Perennials (distinct);" 14, "Twenty-four Bunches of Hardy Perennials (distinct)." (Exhibitors in Classes 13 and 14 may not show in Class 15.) 15, "Twelve Bunches of Hardy Perennials (distinct)." 16, "Twelve Bunches of Hardy Perennials (distinct). Open only to those who do not employ paid assistance of any kind in their culture." 17, "Collection of twenty-four Hardy Perennials, to be shown separately. One or two spikes of each variety." (Classes 12, 13, 14, 15, 16, and 17 must be shown as cut blooms, including hardy flowering bulbs; excluding biennials and flowering shrubs). 18, "Twelve Bunches of Biennials and Flowering Shrubs."

[Is it not singular that hardy flowering bulbs are eligible in the class for annuals? After the word "distinct" in those classes the word "kinds" should be inserted, unless several varieties of the same kind are admissible. Probably local exhibitors know what is meant, but that is not sufficient for general acceptance.]

WHAT a prolific mother of disputes and wrangles, of difficulties and trials, of worries and annoyances! Happy is the Hon. Sec. who has been fortunate enough to steer his bark through these quicksands without wounding the tender feelings of an exhibitor or treading on the more sensitive corn of some cantankerous committeeman, the latter possibly a person utterly ignorant of horticulture. Let the agenda paper contain "consideration of schedule," and however cold the atmosphere externally it will be quite warm within, perhaps even hot with a thunderstorm to cool the air. Many such meetings have I attended in the past, and many a fierce battle have I seen, whilst I have been trying to guide the little bark into smooth water. Now, though discussion on the subject may do some good, it will remain a troublesome point. When a society is fettered by a scanty supply of the sinews of war printing is often felt to be a terrible expense, hence notes and explanations are often omitted, and as a result errors occur. It is quite possible, too, that in the infantile days of the society judges were selected who possibly did not detect the difficulties, or, discovering, passed them over.

Such was the case with a society to which I was once honorary secretary; I well recollect the first check. A leading gardener in the neighbourhood was asked to judge. At the class for vegetables, so many varieties, I was appealed to. The exhibitor had staged, as he considered, say ten varieties of vegetables, but he had two sorts of Lettuces staged as one variety. "Look here, Mr. Secretary, you have a schedule, and you say ten varieties, but this exhibitor has eleven, for he has two sorts of Lettuce as diverse as Cabbage and Savoy." Well, I think the disqualification was made. The following year I insisted on an explanatory note. So it ran: That different sorts of the same flower or vegetable would be considered "two varieties" and judged accordingly.

Such a rule holds as good in flowers. Take the class on which particularly Mr. Shanks (page 497) writes. Two varieties of Rose, for instance, may be almost as distinct in appearance as different species, and yet may be a great addition to the beauty of a stand containing twenty-four sorts of the flower. Varieties of Liliums, Gladiolus, or Gloxinias would be equally grand additions, and would be met by a similar note as to the meaning of the word "varieties." At this same Show I introduced a class for "flowers grown out of doors," and it became very popular, and of course excluded outdoor flowers that had been kept under glass, one of the difficulties Mr. Shanks mentions. Here, however, comes in the good faith of the exhibitor, as I calculate it would take an extra sharp judge to detect those grown under glass. It must always be remembered by exhibitors that where the competition is very keen twenty-four or twelve varieties made up of true varieties would rank higher, if equally good, than the same number containing three sorts of Gloxinia, two Liliums, &c., and where an exhibitor

could stage all varieties I apprehend he would and should stand a better chance of winning.

I think the point of stands of cut flowers might be made easier thus: if they came after, say, the cut Roses, Gladioli, Carnations, and Phloxes, those flowers for which a class is provided; if it stated "For so many varieties, two or three prizes, flowers for which a class has already been provided not to be shown in the stand." I also found a class at the end of the cut flowers for "any other variety not previously classed, so many blooms," most attractive, a large variety of flowers being thus exhibited which had no place before; the competition became so strong that two first, second, and third prizes were ultimately offered.

The dimensions of bunches it is difficult to arrange. First, it seems to me to be necessary to impress on exhibitors that a stand with bunches nearly on a level as to height and size carry an extra charm from their evenness. This even character cannot be gained if the exhibitor is tied to showing, say, five stems in a bunch; the point is possibly better achieved if the schedule says, "not more than five stems in a bunch." This way, a grand stem say of perennial Phlox stands by itself and is not disfigured by being squeezed against two or three other stems. Five stems of well grown Salpiglossis will make an equally good show; whilst two, or at most three, stems of Gladiolus are sufficient. Mr. Shanks' suggestion as to the size of tubes I do not think possible, because it is unlikely that all societies would agree as to size; and next, it entails a degree of expense on exhibitors of small means, the very persons who want encouragement to exhibit. It is not everyone who can afford special Rose tubes or Chrysanthemum tubes.

I confess I lean more to your suggestion of "hardy border flowers" rather than "herbaceous" or "perennial." We do want to make schedules as simple as possible, for though gardeners of the present day are much better educated than formerly, there are still some of the older ones left who have not had the same advantages, and it often happens that the whole matter is left in the hands of the gardener. Everyone has a lingering preference for his own infant, and even to yours I prefer, "For the best stand of flowers, grown out of doors, so many varieties," and this would include shrubs and even trees; to this addition, I, for one, see no objection.—Y. B. A. Z.

[A class thus worded would admit flowers of tender bedding plants; also if a person made up his stand of twelve bunches with three varieties each of Carnations, Roses, Lilioms, and Delphiniums, or even twelve distinct varieties of any one of those kinds, he could not be disqualified.]

EVERYONE really interested in this subject must be glad to find it again being discussed in the pages of the *Journal of Horticulture*. During the past three years I have frequently been perplexed in order to come to an equitable decision when judging herbaceous and hardy flowers. We have no authoritative data to work upon. The wording of the schedules is ambiguous in most instances, and as a matter of fact I have known of instances where members of a Committee appointed to draw up a schedule have been ignorant as to what is generally understood by the term herbaceous. Considering how great and thoroughly representative is the competition in these days in the classes devoted to herbaceous and hardy flowers, the time has surely come for the formation of a representative society which shall frame rules and have an authority on the lines of the National Rose Society.

Surely such names as Wolley-Dod, Ewbank, D'Ombrian, Page-Roberts, A. L. Fellows among the parsons, with T. S. Ware, P. Barr, Backhouse, and George Paul of the trade, would inspire the confidence of every local society in the kingdom. Who will make the start? There is no time to be lost, and there are several questions to be definitely decided, one of the most important being, "Are all bulbous plants to be excluded in a stand of herbaceous flowers?"

We had letters on the subject last autumn, but the matter was dropped just when one thought it was about to be pushed through to some final result. This is the quiet season, so the *Journal* will, I feel sure, find room, now that the shows are over, for the opinions of those best qualified to air them. We want the opinions of experts rather than those general and casual controversies which so often end in discussions *et preterea nil*. By this means we shall get some definite lines upon which to set to work.

The other question raised by Mr. Shanks is also an important one—i.e., the showing of hardy flowers. Nothing can be more inartistic nor hideous than the flat squashed-up huge bunches of annuals, biennials, and perennials, such are now staged at most shows—no foliage, no grace, nothing to show the habit of the plant; in fact, nothing to teach those who come to learn; and surely the chief object of our shows should be to edification in

floriculture. I sincerely hope that Mr. Shanks' letter and the Editor's remarks, on page 497, will be the means of some real practical movement towards the end all lovers of herbaceous and hardy flowers have at heart.—J. A. WILLIAMS.

CROCOSMA AUREA MACULATA.

THE old type, *C. aurea*, which is a well known plant in gardens, is sometimes designated *Tritonia aurea*, and *Crocantus mossambicensis*, under either of which names it may frequently be found. It is a native of Kaffraria, Natal, the Transvaal northwards to Mozambique, and the



FIG. 69.—CROCOSMA AUREA MACULATA.

Zambesii highlands, and although usually grown as a greenhouse plant, it will also be found a valuable addition to open air flowers. It is quite as hardy as the new race of *Tritonias* lately introduced through Lemoine & Sons of Nancy, which along with the *Crocasma* get injured in severe winters if not well protected.

The same may be made to apply to the handsome variety *maculata*, of which we give an illustration (fig. 69). It is also to all intents and purposes a greenhouse bulb, but it may readily be grown in the open ground, and either lifted and protected in frames, or protected in the open ground with any loose open material at hand. This variety is by far the best of this group, and one of the very showiest and most useful of summer flowering bulbous plants. The flowers are quite half as large again as the type, the three inner segments being marked near the base with red-brown blotches. Seen in a group it gives a most

telling effect, and in this way is superior to *C. aurea imperialis*, in which the flowers are large and of a brilliant orange shade.

Both varieties are now in the trade, and should be noted by all on the outlook for showy probably hardy plants. There is no reason, at any rate, why they should not be grown much in the same way as the Tritomas, and be equally as hardy as those very popular garden flowers. They are all increased by division and seeds, and make good plants for growing in pots in the greenhouse.—M.

THE APPLE—VARIETIES AND HOW TO GROW THEM.

[A Paper read by Mr. W. CRUMP, The Gardens, Madresfield Court, near Worcester, at a meeting of the Birmingham Gardeners' Association.]

DURING the last few years the Apple-growing question has been an absorbing topic, and an immense amount of both common sense and nonsense has been written upon it; therefore it is no easy matter to say much upon the subject without laying oneself open to a suspicious charge of plagiarism or copying somebody, an act I, in common with all honest men, would scorn to do knowingly. I purpose to confine my remarks strictly to such facts that have come within scope of my own experience; at the same time I am fully cognisant of the difference betwixt knowledge thus gained and the necessary eloquence to explain such clearly to others.

In the first place there is no hardy fruit grown in this country of such national importance, nor so wholesome as an article of diet, as the Apple, whether cooked or consumed in its natural but ripe condition. Its various uses and value in domestic economy are familiar to all of us. It has become a recognised fact, that the average Englishman does not consume half enough ripe fruit of this kind, probably owing to his inability to procure it good and cheap.

In the second place we have positive evidence that there is no country on the face of the globe that can produce Apples of better quality than certain counties and appropriate places in England. I particularly wish to emphasise this, as there are pessimists about holding contrary opinions, who are ever ready to decry every modern move, and to raise obstacles in the path of progress; in this case pointing to the huge annual increasing importations from the colonies and elsewhere as conclusive evidence in their favour.

I gratefully acknowledge the value to the public of these high-class importations, and especially to us as growers, for the object lessons thus taught have been the means of arousing us from our Rip Van Winkle-kind of sleep, and showing us plainly how we neglected the cultivation of our Apple trees during the greater part of the past century. Such unpleasant facts have aroused John Bull, and doubtless in less than another decade foreign importations will decrease, at certain times of the year at all events, for now everybody will be growing Apples, and everybody will know how to grow them. If they do not know how it cannot be for want of opportunity in these days of technical education and an educational code which includes rudimentary horticulture. The latter I have long desired to see for obvious reasons. Nay, even the Lord Mayor's Show is now considered incomplete without a representation of Apple growing.

The continued depression in agriculture, and the unprofitableness of corn growing, have also been the means of turning the attention of statesmen, landowners, and others to what should have been done years ago as regards planting fruit trees. There are now estates which have established experimental hardy fruit gardens for the purpose of testing varieties suitable to their respective districts, and worked in conjunction with the raising, planting, and cultivating fruit trees on the most approved methods and sound commercial principles. This is done to improve the value of properties, as well as stimulate the home fruit growing industry amongst farmers, allotment holders, amateurs, and cottagers upon these estates—commendable objects surely.

Circumstances during the past ten years have placed me in charge of one of these experimental and interesting plantations of some 3 to 4 acres in extent. We have upwards of 230 varieties of Apples under trial, and my remarks are mainly based upon the results of these experiments. It would be tedious to individualise these varieties, but I have taken careful notes of their relative merits. If I were confined to one Apple only for my own consumption I should choose Cox's Orange Pippin, but to keep up a succession of Apples over a long season I have found those to be enumerated well adapted for the purpose.

DESSERT APPLES.

For earliest dessert purposes I prefer the following:—Beauty of Bath, very early, handsome, a free grower, and good cropper;

brisk, juicy flavour. Irish Peach, very similar in quality; tree of rather peculiar habit, always fruiting on the extremity of shoots, therefore a careful system of pruning is necessary; ripens a few days later than Beauty of Bath. Mr. Gladstone, a good first early; colour very rich mahogany, crops well, and commands a ready sale; tree a compact and free grower, but rather deficient in flavour. Duchess of Oldenburg, not quite so early, but better in quality; beautifully striped fruit, full of sprightly juice and pleasantly perfumed. Those varieties do well as open bushes.

For second early dessert, Worcester Pearmain, one of the handsomest Apples in cultivation, excellent for market purposes, but deficient in flavour, and, like all the early section, should be used immediately after gathering; tree a good bearer and of shapely habit, fruiting freely as a bush or orchard standard. Lady Sudeley, new, or little known, but excellent; beautifully striped, and of very pleasant and agreeable flavour; crops well as a bush. Gravenstein, a splendid yellow-fleshed Apple, rich, sweet, juicy, a real favourite when in its best condition, rather a shy cropper, best on the Paradise stock, unless frequently lifted. American Mother, first-rate as a second early, good in flavour and cropping, producing medium-sized, handsome fruit, and the tree has a robust constitution.

For midseason dessert we have dozens of good varieties, but my choice commences with Cox's Orange Pippin, the best of all; rich yellow flesh, having much of its parent's flavour, the old Ribston; makes a handsome, shapely bush or pyramid; rather spindly wood, and somewhat subject to slight attacks of mildew, a good bearer on any stock, having plenty of fibrous roots. Blenheim Orange, hard to beat all round, but does not bear well as a bush nor on young trees, makes a superb standard orchard tree on the Crab stock; probably this was the greatest prize ever raised from a chance seedling, the quality is familiar to all. King of the Pippins, an old but unbeaten variety, very handsome; a good bearer, and keeps in good condition over a long season. Claygate Pearmain, excellent, and ought to be grown more extensively; much the appearance of Cox's Orange; tree rather more vigorous, and fruit a little more conical and russety; crops freely, and keeps well.

For latest dessert.—May Queen, highly recommended, very handsomely coloured, medium size; an extra good cropper, tree of free growth and splendid habit. We have model bush trees of this variety which never fail to give us branch cordons of grand fruit; in fact, thinning has to be done every year. Court Pendu Plat, the latest to flower, hence its popular name—the Wise Apple—may be relied upon to crop well. The fruit keeps well, and is of handsome appearance, singularly flat and distinct, flavour brisk and good. Sturmer Pippin, a hard fleshed Apple and long keeper, dull red cheek on green ground, juicy and good when others have vanished. It makes a good standard tree for an orchard. Lord Burghley and Allen's Everlasting are both of rich Pine flavour, and may be kept in sound condition until June, succeeding as bushes or standards in orchards in Worcestershire.

Good late keeping dessert Apples are always scarce, consequently of the greatest importance. Our friends at the antipodes command our markets with them, their samples being often retailed at 3d. to 6d. each; but the best flavoured varieties we receive are Calville Blanche as grown in France, and Newtown Pippins as grown in Canada and the United States. Apples may be kept longer in season if stored in barrels away from the air, but the flavour is not improved thereby.

Sixteen dessert sorts may possibly seem a large number for the ordinary fruit grower, but it is rarely that all those named succeed on any one place. Therefore, to ensure success a trial must first be made; then those that answer the best may be planted in quantity, according to circumstances, for doubtless all of us already know something of the subtle influences of soil and climate, as well as the evil of planting too many sorts. The same remarks also apply to the following sixteen culinary kinds:—

CULINARY APPLES.

For very earliest gathering: I can recommend Old Hawthornden, Manks Codlin, Lord Suffield, and Ecklinville Seedling, all pale-coloured. The trees are good growers, and enormous and certain croppers when grown as bushes.

Second early: Peasgood's Nonesuch is the largest and handsomest fruit we grow, consequently returns the best prices in the market. The tree makes an excellent orchard standard, and is a free grower of shapely habit, but a rather shy bearer. Stirling Castle, Cox's Pomona, and Potts' Seedling are each good bearers, and succeed well as bush trees.

Midseason Varieties: These are best represented by Lane's Prince Albert, a splendid and handsome Apple, a most prolific bearer of the best quality; does best as a bush, the habit of the tree being somewhat irregular as a standard. Bismarck, new, promising well, so is Bramley's Seedling, giving handsome fruit, which keeps

well, enhancing its value. Golden Noble is a bright yellow-skinned Apple of great beauty, even in outline, and having rich, clear white flesh when cooked. These last named three make fine orchard trees, worthy of general cultivation.

Very Late Keepers.—Dumelow's Seedling, otherwise Wellington, Normanton Wonder, &c. This makes a fine orchard tree, rather drooping in habit, having peculiar speckled wood; requires considerable pruning to prevent overcrowding; fruit medium size, very firm, yellow in colour, with a rosy cheek on the sunny side; flesh very white when cooked, but singularly acid; one of the very best sauce or jelly Apples. Flanders Pippin, an invaluable late Apple, chiefly so on account of its saccharine properties, suitable for dyspeptics who cannot enjoy Apples, requiring raw sugar to make them palatable. The tree is suitable for the orchard only, and does not bear until attaining a fair age. Newland Sack, a local kind, but possessing valuable properties as a long keeper; makes a splendid orchard standard tree that lives to a great age; bears regularly; fruit dull green and russetty; of medium size, but not striking in appearance; trees get very thick unless systematically pruned. For very latest use nothing beats the old Ironsides or French Crab, which may be kept sound for two years.

The above varieties do not by any means exhaust the list of good and desirable Apples, but they will be found sufficient for general requirements. The most common error is in planting too many sorts, but there is yet room for our raisers of new Apples to give us very late kinds of better quality.

Colour is a great desideratum for market purposes, although it never entirely represents flavour. At the same time I think there can be no question that fruit of any kind grown on trees, kept thin and open to the influences of sun, light, and air, must be better coloured and preferable to those grown in the shade of a thickly crowded tree. I have never yet seen an over-thinned tree where the roots were right. In my opinion the stock exercises a certain degree of influence in the production of colour in Apples. In addition to my own experience on Madresfield soils, aspects, climate, and other cultural details, I saw this practically demonstrated most clearly last September at Kempley, Gloucestershire, where samples of the finest and highest colour of Worcester Pearmain and Peasgood's Nonesuch I had ever seen were grown and shown by an intelligent amateur in that village. These grand fruits had been grown under ordinary circumstances on trees supplied from our home nursery, worked on our favourite Crab stocks, and raised from pips of high-coloured cider Apples. Such evidence was extremely pleasing and encouraging, as foreshadowing what we may expect when the thousands of trees we are planting come into full bearing.

I do not deny but that good fruit can and is produced on Paradise or other dwarfing stocks; but personally I see no necessity for an alien stock when the indigenous Crab gives us all we require under proper management.

METHODS OF CULTURE.

We have yet to deal with the important question, How best to grow Apples? So, following the familiar precedent on hare-cooking by first catching the hare, we will first deal with the tree. My favourite shape of tree is that commonly called the open or pyramidal bush, having branches furnished with fruiting spurs from stem to extremity, regularly situated branches at not less distance than 2 feet apart, and trees planted at least 9 feet asunder.

It may well be asked here, What is the fundamental part of a tree? The roots. What part of a tree is most out of sight—yes, and mind too, and consequently receives least attention? The roots. What part produces or fails to produce the success or disappointment the cultivator is entitled to? The roots. Now, being of such importance, what are roots and what their functions? Roots are of two kinds—the deep or tap roots, and the surface or fibrous roots; in short explanation, the former produce wood and the latter fruit. The natural tendency of the Crab stock is to strike down deeply at first, making tap roots, and the aim of the skilful cultivator should be to convert these tap roots into fruitful fibrous ones by early careful digging up, and replanting them in a horizontal position near the surface, instead of the perpendicular, as in nature. Such an operation dispenses with what is called root-pruning, on the same principle as "Prevention being better than cure."

Why allow trees to make deep tap roots and the certainty of unfruitful wood, both of which have to be cut away with the knife, saw, and spade? The worst part of it is that when a tree has been going on for some time unchecked in this manner and root-lifting is attempted the tap roots are found to be too strong and stubborn to be brought up near the surface, consequently they have to be cut off, which frequently throws the tree into a state of chronic debility, and from which it seldom recovers. It may be taken as an axiom that an abundance of fibrous roots always

complete the ripening of the wood and fruit buds made, but wood made by tap roots never ripens; moreover, so few fruit buds are formed whilst the tree is exhausting its energies to grow gross wood. It will, therefore, be plain to see the importance in purchasing trees to select only those which have had several removals, and the fibrous roots are formed there is little fear of unfruitful or tap roots again forming; moreover, pruning will be reduced to a minimum, and thinning of the fruit will take its place, although possibly a more painful operation to properly accomplish. I have an idea that nine out of every ten growers are actually afraid or too timid to take these advantageous liberties with the roots of trees; but let anyone try the experiment to test this by carefully lifting a small tree and as carefully replanting at once, treading the ground solid. The work should be done in November, and a mulching placed on the surface. In the case of orchard standards the position is reversed, because a tree presenting an increased surface to the wind will need a few deep roots as a kind of sheet anchor, which is one of the reasons of their being longer in coming into bearing.

For small areas the cordon system is recommended, and doubtless the finest fruit may be obtained in this way, especially when trained against buildings, walls, fences, wire trellises, or over walks, to form a kind of ornamental and useful avenue. Espaliers seem to have lost caste of late years, as much better results are obtained from the same space by planting rows of single cordons trained diagonally.

The substance which I have intended to convey is to plant numbers of Apple trees, but of few kinds, selecting those with short firm wood and fruit spurs and abundance of fine fibrous roots on prepared Crab stocks principally. Plant shallow on firm ground, mulch heavily, instead of mixing manure in the soil; give water and stimulants according to weather and crop. Keep the trees thin, and aim at quality before quantity. Apple growing will then become both a pleasure and a profit.

LARGE APPLES.

I SEND specimens of Peasgood's Nonesuch Apples. I have a dozen bush trees of the variety on the Paradise stock. They were planted in the open fruit garden with other kinds in February, 1890, being then small trees. They were cut back when planted; but beyond cutting out any cross shoots, and stopping the points of strong growths about the last week in June, they have had little done in the way of pruning. Soil, a strong, clayey loam, with a clay subsoil under-drained. The site had been used for a vegetable garden, and being in good condition no manure has been needed yet.

There were a little over 3 bushels of various sized Apples on eight of the trees only, the smallest being the size of a good Blenheim Orange which they very much resemble. Position south, sheltered on the south-west by a wood. The trees are now 6 to 7 feet high, growing strongly and forming fruit buds freely, and will, I think, give some good fruit next year if the spring is favourable.

Most fruit trees here are grown on the extension principle, and if any grow too strong the spade is run round their roots. There are a number of trees on the free stock, and the dwarfs are planted between to give a quick return, and from the heavy crops some of them give they cannot last many years. Such sorts as Stirling Castle, Ecklinville, the Saltmarsh Queen, Lane's Prince Albert, Duchess of Oldenburg, Domino, and Small's Admirable are like ropes of Onions. Whilst some varieties do well others scale and canker, then out they go and are replaced with others that are found more suitable.

Most of the Peasgood's weigh from 1 lb. upwards. They have not been thinned out, or had any water or stimulants of any kind, or no doubt they would have been much larger. —W. SALCOMBE, *Gardener to the Dr. Newington, Ticehurst.*

[One of the Apples sent is the largest we have seen grown in the open air. It was 16½ inches in circumference, and weighed, when gathered, 26 ozs. We congratulate Mr. Salcombe on his notable cultural achievement.]

EDUCATION IN GARDENING.

SILVER MEDAL ESSAY. (Continued from page 499).

METHODS TO PURSUE.

ALL study requires method, perseverance, and determination. There is little to be gained from continually jumping from one thing to another. Whatever subject is studied it ought to be followed up steadily and persistently, for a time at least; then

if a change would seem beneficial, follow up another in a similar manner for a corresponding period.

The best methods of acquiring correct orthography are to study the rules of spelling, adopt careful reading and writing, never being satisfied that a word is spelt right unless absolutely sure. This can be done by consulting a dictionary, carefully correcting all errors. By following up these methods improvements will soon be effected, and after a time the student will be able to see almost at a glance when a mis-spelt word occurs.

Grammar is to composition what spelling is to words. It determines the place of words in sentences, so that the sense conveyed may be expressed clearly. Become thoroughly acquainted with all the parts of speech, which will form the best of all foundations for clear expression. Further progress in this subject, as it can be carried on, will be found to be beneficial. The aim should be to obtain as much knowledge as is compatible with proceeding steadily on with other important and necessary subjects as well.

Botany, being a subject of such paramount importance, it is necessary that a large proportion of attention be given to it, selecting the most useful and practical parts of the subject for the earliest study. This will consist chiefly of morphological botany, or description and study of the organs of plants. Study first the general character of plants, choosing one of the two great divisions into which plants are divided—namely, flowering plants; the other division, which may also be studied, but later on, being that of the non-flowering section. Follow this by learning all about the tissues of plants, their nature and growth; the food of plants; the early development from seed; the growth of roots, stems, and leaves. Particular attention must be paid to grasping all that can be learned about the foliage of plants, as knowledge upon that point is needed in horticulture in order to avoid some of the most prominent cultural mistakes. Leaves are the lungs of plants, and when the distinctively important part they play in the life history of all plants is fully conveyed to the mind, a great lesson in horticulture is embodied in the teaching, which never fails to impress itself upon the whole knowledge previously or afterwards gained. Next comes the flower and its parts, a most absorbing study; the manner of inflorescence, or the general character of flowering as displayed by a variety of plants, as well as the great range of form in which the fruit and seed are produced. The classification of plants, their division into families, genera, species, and varieties, together with their proper names, constitute the nature of the information it is desirable to impress on the mind.

The best and most interesting method to pursue to gain this knowledge is for several students to amalgamate together in a class, which ought to be led by a qualified instructor. Where a class is out of the question, perhaps a few kindred spirits might be brought together for mutual help. Two or three earnest, intelligent students could thus encourage and stimulate one another, discuss knotty points, bringing their combined insight to bear on one problem and thus fathom the mystery. Combination of effort is at all times desirable, but in many cases not always possible; therefore the solitary student unable to command the help of another must perforce pursue the study alone. Even in this case effort and perseverance will command success, and where the help of companions fail that of books may take their place, and an unflinching help, too, they will prove to be if constantly studied. Probably no better methods of pursuing the study of botany, geology, geometry, chemistry, or other science can be indicated than recommending the systematic study regularly of some of the standard volumes on the subjects, taking first an elementary course of lessons, then following with the advanced. It is always better to study in company with another if possible, and better still in an organised class. A similar course conjoined with as much practice as possible is recommended in pursuing the subjects relating more particularly to practical gardening. Endeavour to ascertain the reason of each separate step, considering nothing too simple or unworthy of critical analysis, because it is only by thoroughly understanding each step that progress is made firmly, and the more difficult advanced lessons rendered easier of comprehension.

Study carefully, regularly, and diligently current horticultural literature, and endeavour in every particular to keep abreast of the times. Theoretical knowledge is valuable, but comparatively useless unless accompanied in many cases by practice. Every student in horticulture ought, therefore, to seek early in life employment in practical gardening, and embrace every opportunity of comparing the knowledge gained in actual experience with that acquired by study. Then the one will help the other. No young man ought to be above taking an humble position in any department of practical work if by so doing he can increase his knowledge and skill. Endeavour to secure experience in widely different localities. With youth, freedom, and good health on his side an ambitious young man who aspires to a wide knowledge of his

profession cannot do better than seek several changes during his probationary period, but they should be sought with only one end in view—improvement.

Keeping a diary, or making notes of all important work, is one method of not only gaining knowledge but of storing it up for future use; besides, the practice is beneficial in more ways than these. Render the record interesting by describing the methods of any valuable practice that has been done or seen done. It is possible in many districts to have the privilege of becoming a member of an horticultural society which meets periodically for the purpose of mutual improvement of the members. Much information may be gained in this way. Listening to papers or essays, sometimes popular scientific discourses, and taking part in discussions, is an interesting way of receiving and imparting knowledge. Nearly all societies are well supported by intelligent amateurs, from whom many improving and valuable hints are often derived. Modern improvements in diffusing information have given the means of obtaining valuable horticultural knowledge on practical subjects by the establishment of illustrated lectures, which convey in a clear and popular manner a great amount of information. Where such lectures are given every gardener and student in horticulture should make it a point of attending.

Reading, apart from close study of a subject, is essentially helpful by preparing the mind for the reception of some of the chief facts and principles. Reading is the means of embracing a subject temporarily, passing in review the leading points which call for closer study. By endeavouring to do this systematically and steadily much benefit may be gained, even from one perusal of a book; but by following on a second or a third time still further satisfactory results can be attained.

Observation is capable of throwing much light on whatever is studied or read about. Without the practice of closely observing little progress can be expected to be made. Science has been built up by persistent observation, in which the causes of things have been traced. By education this power of tracing cause and effect is strengthened. A skilful gardener who thoroughly understands the process of watering plants, in pots especially, has gained his power of doing so by accurate observation. He can, as it were, see through a ball of soil and judge its condition correctly through the knowledge gained from prior observations. It is much the same with many other processes, though some, of course, require manipulative skill from frequent practice.—E. D. SMITH.

(To be continued.)

FUNCTIONS OF VINE LEAVES.

THE discussion of this subject in the *Journal of Horticulture* has certainly been an interesting one, and, I hope, instructive. Both sides have defended their systems of culture very well, and I do not doubt that both methods would result satisfactorily. Some years ago I advocated a free, even a bountiful, growth of foliage, and, if I am not mistaken, Mr. Iggulden then took the opposite view, and said that I was extracting material from the border to build up wood that would only be cut away and burnt. That is true to a very large extent; but looking at the matter from an all-round point of view, it cannot be considered waste, because, if we attain the object we have in view by an extension of foliage, we can soon replenish the plant food that has been extracted from the border. I could point, if I wished, to splendid examples of Grapes that were grown for many years by allowing the Vines to make a luxuriant growth of foliage, almost resembling a thicket.

I have modified my opinion very much in this respect, and think that common sense is needed more in this matter than adhering to any hard and fast rule. A liberal growth of foliage is the salvation of a house of Vines which have been partially or wholly lifted. It also has a re-invigorating effect on Vines that have been overcropped, or have sluggish root-action. Enfeebled Vines would much more rapidly be restored to a healthy condition by a free growth of foliage than could possibly be done by any system of close stopping.

We do not, as a rule, take bunches from every lateral on the Vine, and if I understand Mr. Iggulden rightly he does not pinch those from which he takes no bunches so closely. These are alone ample on healthy established Vines to furnish the roof space with foliage fully exposed to the light and to maintain the roots in activity. I am also inclined to believe that this amount of leaf development is ample to keep healthy Vines in a satisfactory condition, provided the foliage is kept clean and the Vines judiciously fed and cropped.

I think it immaterial whether the laterals are stopped at the bunch or one or two joints beyond. I am never very particular about this matter. If the bunch shows close to the main stem I often allow two or three leaves to run, if produced a good distance

from the main rod it may be stopped at the bunch or at one leaf. Whether stopped at the bunch or whether one or two leaves beyond I have never noticed any perceptible difference in the Grapes. If I could determine which bunches I should retain at the time the laterals were first stopped I would certainly pinch them at the bunch and not allow any sub-laterals to extend beyond the bunches. At the time of writing I have Grapes hanging in this condition now, and they are slightly larger in the berry; there is no difference in the colour because all are black. I was first led to adopt this system of stopping by noting a large bunch close to the main rod from which the shoot beyond was accidentally broken when tying down. The lateral had only three leaves on it, and the Grapes were as perfect as any in the house. I am inclined to think by stopping at the bunch the Grapes set better and receive the support that otherwise pass to the leaves beyond.

I do not put particular faith in large wood and heavy leaves. They might be the result of over-luxuriant Vines that sooner or later collapse under the strain of fruit-bearing. I have seen bold foliage that would have been the admiration of Grape growers if the crop had been removed before they saw them. Very often Vines that "shank" by getting their roots in cold or unsuitable soil often produce large foliage, but I have not yet been curious enough to weigh them. What I like to see, and have, is wood that is firm and hard when cut, practically pithless, even if the foliage is moderate in size; such wood will, all other things being right, usually produce good well finished Grapes.

I am not an advocate for large bunches; they are sensational in their way, and may do for particular occasions and exhibiting. Many of us have families to provide for, and I find a few large bunches useful, but the majority of moderate size are far more serviceable.

I am not half so afraid as I used to be years ago of exhausting Vine borders. There is often far more digging out and replenishing than there is any occasion for. Very frequently they are poisoned by overfeeding, not exhausted, but I hope before long to have more to say on this matter.—WM. BARDNEY.

ADIANTUM FARLEYENSE.

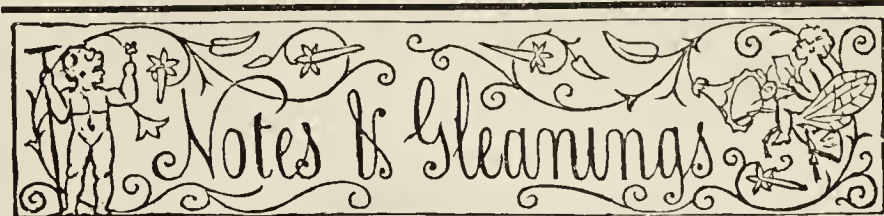
HAVING read with much interest the cultural details given by "J. C. C." and by Mr. Charles Payne (page 478), as the best means of growing this beautiful Adiantum, perhaps I may be allowed to add my experience in the culture of this Fern. I had a few plants in 7-inch pots, and in the early spring these were shifted into 12-inch pots. The compost used comprised equal portions of loam and peat with the fine shaken out, retaining only the fibrous parts; to this were added some sharp sand and well-burnt cinders crushed to about the size of hazel nuts, care being taken to select only those which contained no gas. The whole is thoroughly mixed and well worked round the plant with the rammer. This compost is what the plants had until they were given the final shift, when a few pieces of charcoal and crushed oyster-shells were put over the drainage. When the plants became root-bound weak liquid manure was given once a week during the summer months.

They were grown in the fernery, which was shaded through the summer months, a humid atmosphere being always maintained. I do not believe in syringing the plants, as it causes a rusty and glazed appearance on the pinnæ, and, in my opinion, helps to bring scale. The fronds should be supported and brought into position with fine sticks, and all old and decayed foliage picked out. I may mention the largest plants grown as described measured 5 feet and 5 feet 6 inches in diameter. Should the plants in course of time be getting weaker (as they generally do), they ought to be cut into parts, as many as required, say four or five. This is best done in the autumn; they can then be readily divided in the spring, and so save a check caused by bleeding.—H. P., *The Knoll Gardens, Wimborne.*

MR. C. RUSSELL, on page 456 of the *Journal of Horticulture*, when describing his treatment and success in growing this Fern, asks for the experience of others who may have been successful. Many do not succeed in growing this Fern to their satisfaction. I have for the last twelve years been most successful with the culture of *A. farleyense*, and have grown it in hanging baskets, also in pots, from 3 to 16 inches in diameter. My advice to those who wish to succeed in growing this Fern is to pot it in a mixture of turfy loam, old mortar (broken), charcoal, and coarse sand, with a shovelful of burnt ashes instead of leaf soil. Clean pots should be used, with plenty of drainage, and the soil be rammed firm. Water with care until growth has well commenced. I find a temperature of from 60° to 65° quite sufficient. This Fern should never be syringed from the end of August to April. It likes, however, a moist bottom. Standing the pots on a block in the middle or round the edge of a tank is a good practice. The fronds should be staked or suspended on a ring of wire, held in position by sticks placed at intervals round the edge of the pots.

With respect to keeping *A. farleyense* dry in winter, I do not keep it drier in winter than at any other time, but apply water when required, using diluted manure and soot water at intervals during the winter months. At one time I used to grow it largely in 5-inch pots for table

decoration, as my employers were particularly fond of it for a change. We generally used to place six 5-inch pots at equal distances on a round table and a large plant on a raised stand in the middle. The effect was charming, although rather heavy.—JOHN CHINNERY.



EVENTS OF THE WEEK.—The ensuing week will be comparatively quiet one in horticultural circles. As announced in our last issue the general meeting of the Gardeners' Royal Benevolent Institution will be held on Tuesday, December 20th, at Simpsons', 101, Strand. The customary auction sales will also take place, for particulars of which see advertisement.

— THE WEATHER IN LONDON.—The weather in the metropolis continues to be variable. Sunday opened fine and rather mild, with a slight fall of rain in the evening. Frost was apparent on Monday morning and again on Tuesday, freezing hard at night. A change to rain occurred, however, early on Wednesday morning, and at the time of going to press it is fine but cloudy.

— WEATHER IN THE NORTH.—The week beginning the 6th inst. has been marked by less intense frost than the preceding; 14° were registered on the 6th, and 15° on the 8th. On the latter evening and during the night snow fell heavily. A thaw set in on the 10th, and continued for two days; but frost (7°) has again recurred, rendering the roads almost impassable with ice.—B. D., *S. Perthshire.*

— GARDENING APPOINTMENTS.—We learn that Mr. Herbert R. Richards, recently foreman in the glass department Longford Castle Gardens, Salisbury, as head gardener to Major Trafford, Bawns, Roche Court, West Dean, near Salisbury. Mr. J. Gibson Fielden, late foreman at The Gardens, Dalton Hall, Hull, has also been appointed head gardener to S. Hubbard, Esq., Ilkley Wells House, Ilkley, Yorkshire.

— ROYAL HORTICULTURAL SOCIETY'S MEETINGS IN 1893.—The meetings of this Society for the ensuing year will be held as follows:—January 14th; February 14th; March 14th and 28th; April 11th and 25th; May 9th, 25th and 26th (Temple Show); June 6th and 20th; July 11th (Chiswick Show), and 25th; August 8th, 29th, 30th, 31st, and September 1st (Agricultural Hall Show); September 12th and 26th; October 10th and 24th; November 14th, 28th, and December 12th.

— BLUE TITMICE AND FRUIT BUDS.—Regarding the article on the above heading on page 459 of the "Journal," let me say blue titmice receive but little sympathy in Clydeside. I, for one, suffered by them last year, having a border of young Gooseberry bushes well-nigh stripped of their buds; and as for them attacking bees, I remember twenty years ago having seen them do considerable damage to a hive of bees by killing great numbers at the mouth of the hive. They were in turn caught themselves, and summarily dealt with.—J. W.

— A LUCKY SHOWMAN.—The Editor's remarks on page 512 respecting "A Lucky Showman," places the subject in its proper light. A great many of our best gardeners lay the foundation of a place, when by some unforeseen circumstance they have to leave their situation. Other men then enter, take charge, and commence at once to reap the benefit from the previous man's labour and skill. Such instances are, I think, best not referred to in the public papers, as every gardener ought to understand that he cannot help such things occurring. Good men's work live after they have left the place, and is seen by results.—JOHN CHINNERY.

— ROYAL METEOROLOGICAL SOCIETY.—At the ordinary meeting of the Society, to be held at 25, Great George Street, Westminster, on Wednesday, the 21st inst., at 7 P.M., the following papers will be read:—"Moving Anticyclones in the Southern Hemisphere," by H. C. Russell, B.A., F.R.S., F.R.Met.Soc. "The Tracks of Ocean Wind Systems in Transit over Australasia," by Captain M. W. C. Hepworth, F.R.Met. Soc. "A New Instrument for Cloud Measurements," by Dr. Nils Ekholm, Hon. Mem. R.Met.Soc. "Rainfall of Nottinghamshire, 1861-90," by Henry McIllich, F.R.Met.Soc.

— GARDENERS' ORPHAN FUND.—It has been resolved that an election for eight children to be placed on this Fund shall take place at the annual meeting in February.

— DEATH OF MR. H. T. STANTON.—We regret to record the death of this eminent entomologist, which took place recently. Mr. Stanton was in his seventieth year, and for a long period he acted as Secretary to the Linnæan Society. He was well known among scientific men.

— A BOUQUET FOR MRS. GLADSTONE.—We are informed that during the Premier's visit to Liverpool recently to receive the freedom of the city, Mrs. Gladstone was pleased to accept a very handsome bouquet of choice Orchids, presented by a daughter of Mr. John Cowan on behalf of the Liverpool Horticultural Co.

— NATIONAL FOOTPATH PRESERVATION SOCIETY.—This Society continues to do good. According to the annual statement just issued the cases of footpath interference and encroachments dealt with from October 1st, 1891, to September 30th of this year were 157. Since its foundation eight years ago the Society has dealt with 880 cases.

— OUTDOOR ROSES IN DECEMBER.—A correspondent writes:—"I notice that people in various parts of the country are writing to the papers, stating that they have Roses growing in their gardens at the present time. It may interest your readers to know that on Saturday, December 3rd, I saw Roses in full bloom on the walls of several houses in villages on the foot of the Yorkshire wolds."

— JASMINUM NUDIFLORUM AND COTONEASTER MICROPHYLLA.—What a delightful contrast is made by the bright yellow of the winter Jasmine and the pleasing red of the Cotoneaster berries, enhanced also by the dark green leaves of the latter. I have these two shrubs so growing together that it makes one wish to see more similar examples. I never saw the Jasmine flowering more freely than now.—M. S.

— ANOTHER YELLOW-FLOWERED CALLA.—Yellow-flowered Callas will soon be as common as the white forms. I am informed that Mons. J. B. A. Deleuill, a well-known nurseryman of Marseilles, has a splendid yellow Calla of his own raising. The new hybrid is said to be a cross between *C. hastata* and *C. albo-maculata*, and is of dwarf habit with chrome-yellow spathes. The foliage is spotted, like one of its parents. It will be known as *Richardia aurata*.—H.

— NATIONAL AMATEUR GARDENERS' ASSOCIATION.—The members of this Association held their second annual dinner at the Holborn Restaurant on Tuesday, December 13th. Mr. T. W. Sanders, the President, occupied the chair, and there were upwards of 100 ladies and gentlemen present. Alluding to the Association, the Chairman said, although started but two years ago, unprecedented progress had been made, there being 408 members on the books. There were also one branch of the Association at Liverpool and several affiliated societies, including one in Tasmania. The medals and certificates won during the year were distributed, and with the aid of a capital musical entertainment a most enjoyable evening was spent.

— BERRY-BEARING SHRUBS.—The note by "T. A." (page 510) referring to berry-bearing shrubs calls to my mind a beautiful sight that I saw in Kent in the autumn. This was on the road leading from Eynsford railway station to Messrs. H. Cannell & Sons' seed farm. The hedges were literally aglow with berries of many kinds and shades, from a bright crimson to a dark purple, forming a sight better imagined than described. The soil appeared to be dry, light, and rather chalky, which to a certain extent may account for the profusion of the berries and the luxuriance of the wild Clematis, that made an additional charm to the lovely scene. Perhaps Messrs. Cannell can tell us something about these wild berry-bearing shrubs.—C.

— THE WAKEFIELD PAXTON SOCIETY.—At the recent meeting of this Society Mr. Pitts, gardener to Dr. Kendall (Walton), read a practical paper on "Winter Digging and Manuring." In the course of his remarks, Mr. Pitts strongly recommended the carrying out of all digging and trenching operations before the close of the year, in order that the soil might be well aerated and broken down by the frosts. He enumerated most of the leading manures used in farming and gardening operations, explaining the results of their application upon the various crops; but, after all, he pinned his faith upon ordinary farmyard manure. In the course of a long and interesting discussion which ensued, some exception was taken to the lecturer's dogmatism in the latter respect. Mr. Pitts, in reply, maintained his position, and showed he had good grounds for his faith in farmyard manure.

— APPLES IN ONTARIO.—It is estimated that Ontario, Canada, had an Apple crop this year, including the autumn and winter varieties, of 3,384,179 barrels.

— BAUHINIA GRANDIFLORA.—According to the *Revue Horticole* this plant has flowered for the last few years in the open air at the Botanic Gardens, Lisbon. It is a magnificent stove plant, and is not so generally grown in this country as it might be.

— DEATH OF DR. HAWKSLEY.—Mr. Thomas Hawksley, M.D., founder of the National School of Handicrafts for Destitute Boys at Chertsey, at a cost of £30,000, and formerly in extensive practice in London, died at Chertsey on December 13th, at the age of seventy.

— BALDWIN APPLES.—It is stated that the original Baldwin Apple tree was discovered in Wilmington, Mass., in 1784. In 1835 it was recorded that William Winn of Woburn sold 400 barrels of Baldwin Apples to a dealer in Faneuil Hall Market, Boston, which was said to be the largest crop raised by any person at that time. It is at the present time one of the most popular foreign Apples sold in our markets.

— CROCI.—I am glad to see that Mr. Arnott is keeping up the Croci, and shall be pleased to send him a batch of *Ochroleucus* when lifting time comes. I flowered the first bulb of *Scharojani* seen in England from an odd bulb amongst some others sent me by our poor invalid friend Maw. I sent him the bulb, but never got the sort again. It flowered in July.—R. T. CLARKE.

— NARCISSI IN THE SCILLY ISLANDS.—It is said that in the Islands of Scilly it is not a rare sight to see hundreds of thousands of beautiful Narcissi in bloom in the field in February and March months, and the Narcissi crop now takes precedence of the Potato. Many who grew Potatoes largely a few years ago now grow none at all. One grower, Mr. Francis Watts, will have under cultivation this season twenty acres of Narcissi alone, comprising over 100 varieties.

— ARTIFICIALLY COLOURED FLOWERS.—An American contemporary regrets, and rightly, that artificially coloured flowers are again becoming fashionable in New York. Not many months ago green Carnations were popular in London, but in due course the public taste changed and the artificially coloured blooms gave place to those of a natural shade. The fashion, however, has re-appeared in trans-Atlantic circles, and we are told that bluish-green Chrysanthemums have been prevalent in the capital of the United States this autumn. They are described as looking "like paper flowers manufactured by some artisan with uncommonly bad taste."

— GLASS BRICKS FOR GREENHOUSES.—A new feature in the construction of greenhouses has recently appeared in Europe, says the "Garden and Forest." Mr. Falconnier, an architect at Nyon, Switzerland, has invented a hollow brick, which is made of glass. These bricks are not only capable of being used in greenhouse construction, but there already exists a house in the park Tête d'Or, at Lyons, France, in which such bricks have been used in connection with iron for the arches of the framework. The bricks are used as ordinary bricks would be, and are fastened together either with lime, cement, or plaster. They are translucent, and are blown in the same manner as glass bottles are, in order to make them hollow. They are 20 centimetres long, 14 centimetres wide, and 115 millimetres thick (say 8 inches long, 5.5 inches wide, and 4.5 inches thick), and sell for 24 francs a hundred; this price, however, could be much reduced in case of a growing demand for them.

— LIVERPOOL HORTICULTURAL ASSOCIATION.—The sixth annual dinner in connection with the above Association, held at the Grand Hotel, Lime Street, on Saturday evening, was a distinct success, the attendance numbering about 130. W. Fletcher Rogers, Esq., the Hon. Treasurer, presided, and he was supported by Mr. Thomas White, Chairman of the Association, and Mr. R. W. Ker. After the usual loyal and patriotic toasts had been proposed, Mr. R. W. Ker gave that of the Liverpool Horticultural Association, and spoke of several who had passed away since the last annual gathering, and also paid a tribute to the memory of the late Mr. John Downie of Edinburgh. He went on to speak of the class of plants which used to be exhibited in bygone years and those of the present day, and urged gardeners not to forget some of their older friends, which had had to give way to the prevailing fashion of the day, which might only be of a fleeting character. Mr. T. White briefly followed, stating that this year was the best both as regarded finance and quality of exhibits that the Society had ever had.—R. P. R.

— **HORTICULTURE IN FRANCE.**—The ninth Congress, organised by the National Horticultural Society of France, will be held at Paris concurrently with the General Horticultural Exhibition in the month of May, 1893. The sittings of the Congress will be in the rooms of the Society at two o'clock P.M.

— **THE "KEW BULLETIN."**—This monthly publication appears to increase in interest and usefulness. The December issue contains valuable articles on the "Disappearance of Desert Plants in Egypt," "Taj Gardens, Agra," "Indian Gutta-Percha," "Gold Coast Botanical Station," "Ramie Machine Trials at New Orleans," "Earl of Bute's Botanical Tables," and half a dozen pages of "Miscellaneous Notes." The four which follow are samples. We may state that on and after 1st January next the price of the *Bulletin* will be 4d. per copy.

— **KEW APPOINTMENTS.**—Mr. John Masters Hillier, lately an attendant in the Museums of Economic Botany, has been appointed, on the results of an examination before the Civil Service Commissioners, an assistant in the Royal Gardens to date from September 6th last. Mr. William Watson, lately senior foreman and acting Assistant Curator of the Royal Gardens, has been granted a certificate by the Civil Service Commissioners as Assistant Curator under clause vii. of the Order in Council of 4th June, 1870.

— **UNDER the title of "HARDY SPECIES OF EUCALYPTUS"** mention was lately made in the *Kew Bulletin* (1889, page 61) of seeds of *Eucalyptus globulus*, received from Mr. Abbott, of the Botanic Gardens, Tasmania, and collected from trees growing at high altitudes and accustomed to be exposed to severe frosts. It was hoped that plants raised from these seeds would be likely to bear with impunity the rigours of an English winter. The seeds germinated very freely at Kew, and when the plants were strong enough they were put out in a sheltered bay in the Arboretum nursery in the middle of the summer, in order that they might become established before the approach of the winter. The result of the experiment in this particular instance was disappointing. The first hard frosts in 1889 so severely injured them that, notwithstanding the protection they afterwards received from a canvas screen, they all succumbed before the winter was over. At Kew these seedlings from Blue Gum Trees, accustomed to severe frosts in Tasmania, were, if anything, not so hardy as those of the ordinary forms of *Eucalyptus globulus*. A similar result has to be recorded with plants raised from seeds of *Eucalyptus coccifera*, received at the same time from Tasmania "from trees which were coated with icicles a foot long."

— **BERMUDA LILIES.**—It is pleasurable to record that the services rendered by Kew to the Colonies is recognised by private persons as well as through official channels. It will be remembered that in 1887 an exhaustive inquiry was made under the auspices of Kew into the Onion disease at Bermuda (*Kew Bulletin*, October, 1887). The cultivation of Onions is one of the principal industries of the colony, and the threatened destruction of the Onion crop was regarded by the people as a matter of grave concern. The inquiry made by Mr. Arthur Shipley, F.L.S., established the fact that the disease was caused by a parasitic fungus (*Peronospora schleideniana*) allied to the well known Potato blight. The remedial measures suggested by Mr. Shipley were practical, and it is hoped the disease is now well within the control of the cultivators. Besides Onions, Bermuda is also noted for the cultivation of Lilies (*Lilium longiflorum*, var. *Harrisi*), and from Mr. W. T. James, one of the largest growers of these beautiful plants, Kew has received in recognition of its services, a yearly present of bulbs for the decoration of its conservatories. These plants have proved of striking interest to visitors, and have been greatly admired.

— **ACANTHORHIZA ACULEATA, WENDL.**—The large specimen of this Palm in the Palm House, probably the largest in Europe, is now flowering for the first time. It has a stem 26 feet high, 23 inches in circumference near the base, which is clothed to a height of a foot above the ground with the curious spinous roots peculiar to the genus. The head is about 10 feet high, and is composed of about fifty leaves, which are orbicular palmate, 5 feet in diameter, dark green above, silvery below, split nearly to the base into about sixty segments. The petioles are 3 feet long, unarmed, the margins clothed with white thread-like fibres 9 inches or more long. The inflorescence is a branched drooping dense panicle of white flowers, which are hermaphrodite. A figure of the plant has been prepared for the *Botanical Magazine*. The species is a native of Central America. It has also been called *Chamærops stauracantha* and *Thrinax aculeata*. The other species of this genus—viz., *Acanthorhiza arborea*—is also in cultivation at Kew.

— **BLUE TIT AND FRUIT BUDS.**—While pruning Gooseberries a short time ago I observed a couple of blue tits working very eagerly on the bushes I had pruned. They had found out that they could more easily get at the scale on the main branches after pruning. There is no doubt they are one of our best friends in this respect. Though a bee-keeper in a small way I have not seen them killing bees nor eating flower buds.—R. I.

— **MILD WEATHER IN DEVONSHIRE.**—As an evidence of the mildness of the climate at Teignmouth, a correspondent writes:—"I could send you a boxful of flowers from my garden—Roses, Dahlias, Fuchsias, and many others; and I expect other people could do the same. To-day, December 3rd, the air is warm and balmy like a May day. Invalids could not easily find a more suitable place to winter in than this pretty watering place."

— **INSECT-EATING BIRDS.**—It is claimed that any of the insect-feeding birds will catch about 200 insects a day, and a pair of old birds with a nest of five young ones require about 700 insects per day. This gives an idea of what they are worth in an orchard or garden. I wonder whether this includes the titmice, about which we have heard so much in the *Journal of Horticulture* recently. If so, surely they are worth protecting.—C.

— **EDUCATION IN GARDENING IN BELGIUM.**—The Belgians are advancing in the matter of providing a technical knowledge of horticulture. According to the *Illustration Horticole* there are two Government establishments in Belgium—one at Ghent, with an average of forty-four pupils, and one at Vilvorde, with an average of thirty-eight. In addition, the Government subsidises six other establishments, in which tuition and experiments are carried on—at Liège, Tournai, Mons, Carlsbourg, Virton, and Tirlemont.

— **THE CASTOR OIL PLANT.**—"Good Health" says:—"No sort of bird, beast, or creeping thing will touch a Castor Oil Plant. It seems to be a rank poison to all the animal world. Even a goat will starve before biting off a leaf, and a horse will sniff at it and turn up his upper lip as though it had been the most detestable odour on the face of the earth. There is hardly another instance in natural history of a plant being so universally detested by the animal world as the Castor Oil Plant."

— **POINSETTIAS.**—It may not be known, perhaps, to readers of the "Journal" that there are two distinct varieties of *Poinsettia pulcherrima*. I have been asked how it is that ours are so early, having produced bracts in November. It is this. One variety is much earlier than the other, and can be distinguished by the red midrib in the leaf, also by the colour of the bract, which is paler; the leaves are not serrated as in the ordinary variety. This is a most useful plant, coming into flower with the *Chrysanthemums*. The plants can be used with telling effect by dotting them amongst *Chrysanthemums* in the conservatory. Good bracts can be obtained from plants grown in 7-inch pots, and they do not grow so high as the variety that comes into use in December though struck at the same time. I find it will do with less heat than the ordinary variety, which, of course, makes it still more valuable. I advise those who have not grown it to do so, as it is so useful in the dull month of November.—T. P., *The Knoll Gardens, Wimborne*.

— **BRIGHTON AND HOVE HORTICULTURAL SOCIETY.**—The monthly meeting of the Brighton and Hove Horticultural Mutual Improvement Society was held on Thursday evening, December 8th. The subject for consideration was the cultivation and growth of Potatoes, of which vegetable some very fine specimens were displayed. Mr. A. Netley introduced the subject by reading a paper on "Potatoes and Their Cultivation." Having briefly introduced the history of the tuber since its introduction by Sir Walter Raleigh in 1586, to its present universal popularity, he spoke of the soil in which the Potato should be grown, and remarked upon the comparative freedom from disease and the greater cleanliness of skin of those grown in artificial manure. A great mistake made by many gardeners was the planting of their tubers too close together. The lecturer then gave a few hints as to the planting of the different varieties, and touched briefly on the parasites with which they were liable to be attacked, mentioning especially the "wireworm." He also alluded to the deadly growth of the fungus, which was so prejudicial to their healthy existence. The various specimens upon the table were then handed round, while the lecturer briefly gave the characteristics of each, mentioning in laudatory terms two varieties in particular—the Snowdrop, which he said was an excellent Potato for the Brighton soil; and the Beauty of Hebron, than which he did not think a better all-round variety could be found.

— GUILD OF KEW GARDENERS.—The gardeners of Kew, past and present, are desirous of forming themselves into a Guild, and propose to publish annually a journal in which will be recorded—1, The present Kew staff, from the Director to the gardeners; 2, A list of all Old Kewites, with the date of their leaving Kew, and their positions and addresses; 3, Brief notices of distinguished Past Kewites; 4, Kew Notes; 5, Interesting Correspondence from Old Kewites; 6, The Proceedings of the Mutual Improvement Society and the prize essays of the year; 7, The Proceedings of the Kew British Botany Club; 8, The Report of the Cricket Club; Frontispiece—portrait of a distinguished Kewite. The journal will consist of about fifty pages, royal 8vo., to cover the cost of which, with postage, an annual subscription of 1s. will be necessary. It will be published on May 1st. Will all Old Kewites, *i.e.*, men who have at any time worked as gardeners at Kew, kindly send their names, date of leaving Kew, with present position and address, to the Secretary, for publication in the journal? It is anticipated that every Kewite will gladly become a subscribing member of the Guild, and also communicate any interesting professional information for publication in the journal. It will be seen that the aim and object of the Guild is the very laudable one of uniting all Kew men in a bond of fellowship by means of a journal which will convey to them news of interest, and enable them to communicate with each other. There are probably 500 Kewites distributed all over the world, but of the whereabouts of all except a small proportion there is at present no record. The Committee to carry out this scheme is composed of Messrs. W. Watson, W. J. Bean, G. H. Krumbiegel, J. Browne, H. Pettigrew, and J. Aikman. All communications should be addressed to the Secretary, J. Aikman, Whitestile Road, Brentford. It would save correspondence if members enclose their subscriptions when they write to the Secretary.

— POISONING MOLES.—Monsieur Ledain, the director of an agricultural school in Brittany, has asserted that moles may be poisoned by means of live earthworms which have been sprinkled with nuxvomica. The worms, he says, should be collected and left in peace for twenty-four hours to disgorge the earth they have swallowed. Then they should be put in a jar and sprinkled with the drug in the proportion of 30 grains to a saucerful of worms. Twelve hours later they will be ready for use; and then they should not be touched with the fingers, but taken up with little wooden pincers and put at the entrance of the mole galleries, being covered with elods or bits of tile in order that the mole may not be alarmed either by a current of air or a ray of light.

— ROYAL BOTANIC SOCIETY.—A meeting of the Fellows of this Society was held on Saturday, Major J. W. M. Cotton in the chair. Included in the objects of general interest exhibited at the meeting was a preparation by Messrs. Christy, of the Kola Nut, for a beverage somewhat resembling cocoa or chocolate, and possessing the same tonic properties as it, and tea, coffee, and other like beverages to a very high percentage. Plants of the tree producing the nuts were on the table from the Society's conservatory. The Secretary said that no thoughtful man could walk through the plant houses or museum in the Society's garden without noticing the vast variety of vegetable economic products provided by Nature, and at the same time being struck with the thought of the little use that had been made of them by civilised humanity. In the last fifty years enormous strides had been made in the use of steam, electricity, and machinery generally—not to mention iron shipping and explosive machines—for the service of man; but little attention had been given by commerce to the utilisation of new vegetable foods, beverages, fibres, and timbers, although their value was continually being brought to notice by travellers and scientific research. As an example, of the many valuable fibres only one or two new ones—and they not the best—viz., cocoa-nut fibre and sparto grass—have been brought into extensive use during the fifty years.

— EUONYMUS EUROPEUS.—This seems to have been a good year for this berry-bearing shrub. Hereabouts the woods and hedgerows have been quite ablaze with the brightly coloured berries freely produced. Perhaps the greatest profusion of berries was borne on bushes growing in shallow soil over chalk, irrespective of position as regards aspect, although plenty are to be found carrying good crops of berries in stiff land. I came across a plant one day in a hedgerow that was laden with pure white berries, which formed a good contrast to others near of the more common colour. The natives here call it the "Skewer" Wood Tree.—E. M., *Hants.* [The "natives" are not far wrong. The common name of the shrub is the Spindle Tree, so called from its wood being used long ago for making spindles. It is called Prickwood and Pricktimmer, from being used for toothpicks and skewers. The wood is said to be used by musical instrument makers.

For skewers and toothpicks the wood should be cut when the shrub is in bloom, for then it is tough and not easily broken; it is also used by watchmakers for cleaning watches. The berries act as an emetic and purgative, and are fatal to sheep; and when powdered and sprinkled on the hair, destroy pediculi; sometimes it is made into an ointment for the same purpose. No animals, except the goat, will browse upon the plant.]

— MEALY BUG ON VINES.—Replying to your correspondent "Nemo" (page 505) as to what dressing we applied to our Vines, I may state that there was nothing special about it, being a mixture of clay soot, sulphur, Gishurst, and cow manure, with one wineglass of petroleum to a quart of water. The whole was simmered on a slow fire for, say, twenty minutes, and brushed well into every crevice of the Vines. The wood, glass, trellis, and walls had previously been washed with a strong solution of soft soap and petroleum. But I do not attribute our success so much to the dressing used as to not syringing it off when starting the Vines, and paying strict attention during the summer, destroying every insect as it appeared with a small brush dipped in petroleum. This was done, not every ten or fourteen days, but four or five times in the week; in fact, every bright day. I may add we are pruning our old Vines just now, and I am pleased to say there is not the least sign of bug to be seen in the house.—R. R., *Belfast.*

— COUNTRY FRUIT MARKETS.—I thank "A. D." for his well-intended advice on page 505, but under the circumstances it would have been impracticable to carry out. It may possibly be remembered that just as the bulk of the Green Gage crop were ripening it was a very wet time, and before the fruit was at its best for gathering nearly the whole were split, and especially the finest fruits fit for boxing as described. To have boxed up these would have been worse than doing the best one could of disposing of them at home at almost any sacrifice. The fact is we are too much at the mercy of the middleman, and when one has to depend upon one man it is even worse than when there is competition. In this particular case a dealer agreed to take my fruit on a certain day. It was gathered at some inconvenience and extra expense, mostly cracked, and needed using at once. The day came but not the man, and I have not seen him even yet. My own impression is that he was overstocked, and if fruit is put together damp and split it is spoilt before it could get into the consumer's hands in towns, and would probably be slaughtered in price and find its way into the tons of stuff that is made into town jam. No! Bottling and preserving fresh when the fruit was gathered was what would have been the proper course if it could have been carried out on a small scale on the Toddington principle.—J. HAM.

— NEWCASTLE BOTANICAL AND HORTICULTURAL SOCIETY.—At the annual meeting of this important northern Society, held on the 7th inst., Mr. Gillespie, the Secretary, reported that the payments during the year had amounted to £1425 7s. 11d., and, as the income was £1277 16s. 3d., there was deficiency on the year of £147 11s. 8d. The balance in hand had been reduced from £559 17s. 2d. to £412 5s. 6d. The Chairman, Councillor J. Baxter Ellis, in moving the adoption of the report and balance-sheet, said they required very little comment from him. In one respect they had to a certain extent their usual misfortune, but they had had misfortunes many times, and they had never been disheartened, nor did they intend to be this time. At the time of the spring Show, which they always looked forward to for material help, they had had extremely bad weather. For the autumn show they had had very fair weather; but still they had, and through no fault of their own, misfortune, for on one of the most important Show days there was a bye-election in Newcastle. There was no doubt whatever that that interfered very materially with the attendance at Leazes Park, and consequently, upon the year's working there was a loss of £147 11s. 8d., leaving the Society with a balance in hand of £412 5s. 6d. He had no doubt the Society would again overcome its difficulties, for there was one thing that always inspired them, and that was the knowledge that they enjoyed the entire confidence of the Newcastle people and the people of the North of England. Next year they proposed to join with the Northumberland Agricultural Society, which has been invited by the Corporation to hold its Show in Newcastle. He then referred to Mr. Gillespie's retirement from the office of Honorary Secretary, and acknowledged the value of his services during the last fifteen years. Mr. B. Plummer seconded the motion, which was carried unanimously. Ald. Gibson was elected President for the forthcoming year, with the Mayor of Newcastle (Mr. Edward Culley) Vice-President. Mr. Gillespie, in consideration of his valuable services, was invited to a seat on the Council, and has accepted the honour. The next spring Show has been fixed for April 19th and 20th.



THE ORCHID REVIEW.

ON January 1st, 1893, will be published the first number of an illustrated monthly journal, devoted exclusively to orchidology in all its branches, edited by Messrs. R. A. Rolfe and Frank Leslie. The prospectus states that the work will be specially devoted to the interests of cultivators of Orchids, and will be conducted on broad and independent lines as a general repertorium of information on every branch of Orchid lore. Among the subjects treated of will be found :—Descriptions of new species and hybrids, with their origin and parentage ; notices of interesting collections ;

crest, which adds considerably to its charm. It is obviously a useful Orchid for decorative purposes, inasmuch as it continues in full beauty for a long period.

CYPERORCHIS ELEGANS, BLUME.

Though this Orchid must have been introduced into England many years ago, it is still very rarely met with. It is a native of the Himalayas, where it was discovered by Wallich in 1821. It was originally classed as a *Cymbidium* by Lindley, and as such it is still generally known. *Cyperorchis elegans* is, as the name implies, a graceful plant, and though it may lack the brilliant colours of the *Cattleyas*, it is still sufficiently showy and attractive to merit a wider cultivation than it at present receives. It flowers during the months of November and December, and as the Orchid houses are as a rule not very gay at that season, it is surprising that this plant should have been so much overlooked. The leaves are strap-shaped, recurved, 12 to 18 inches in length by three-quarters of an inch broad. The tubular flowers are borne in a stout pendulous many-flowered raceme about 10 inches in length. The



FIG. 70.—SPATHOGLOTTIS VIELLARDI RUBRA.

portraits of interesting Orchids ; cultural notes by experienced cultivators, with a comprehensive calendar of operations ; geographical notes and sketches of Orchids at home ; biographical sketches ; reports of meetings and doings of the month generally, with any other matters likely to prove useful or interesting to lovers of Orchids. The price is 1s.

SPATHOGLOTTIS VIELLARDI RUBRA.

THIS charming variety was exhibited by Sir Trevor Lawrence at the Drill Hall on Tuesday, November 1st, when the Orchid Committee of the Royal Horticultural Society awarded it a first-class certificate. The plant shown, and from a sketch of which our illustration (fig. 70) has been prepared, bore a spike containing fifteen fully expanded blooms and a number of buds. The sepals and petals are of a bright purplish shade, as also is the lip, the latter, however, being a deeper colour, and possessing a yellow

individual flowers are about 2 inches in length and nearly an inch in diameter, greenish-yellow in colour, with a few spots of red on the lip.

This Orchid requires an intermediate temperature all the year round. It should be grown in a compost of fibrous loam, peat, and sphagnum in well-drained pots. Abundance of water is essential, particularly in the growing season.

A figure of *C. elegans* is given in the "Botanical Magazine," t. 7007, and a plant may now be seen in flower in the cool Orchid house at Kew.—A. B.

CALANTHES.

THESE plants, now coming into bloom, are so useful that it is well-nigh impossible to grow too many. Crowding should certainly be avoided, or injury results. As many as can have room to develop themselves properly during the later stages of their growth only

should be grown. Any surplus stock may be cultivated in baskets and suspended from the roof. These are not only effective when in flower, but they are useful for cutting, and thus save those grown in pots for other decorative purposes.

Calanthes do well in a compost of two parts fibry loam to one part of peat; sand should be added, a little charcoal, and some cow manure that has been passed through a sieve. Leaf mould may be substituted for peat. Last year I did not use peat, and the plants improved in size and the spikes were larger. The pots should be well drained, and the pseudo-bulbs potted just below the rim. The soil being of a light nature will settle and leave sufficient room for water by the time they are in active growth. If the pseudo-bulbs are placed in small pots to start with they may be slightly elevated above the rim. At one time I followed this practice, but it is not necessary, as I have found the plants do equally as well when placed at once in the pots in which they are to flower.

After potting the plants should be placed where the temperature at night does not fall below 60°. The atmosphere should be close and moist; very little water will be needed at first, if over-watered Calanthes rarely do well. No more should be given than is really necessary to keep the soil from becoming dry. The supply should be gradually increased as the roots and growth are developed.

Those to be placed in baskets may be started a number together in small pots. This I consider a good plan, as there is not the liability to give them too much water as when placed direct into baskets. Where the watering can be carefully attended to they can be placed into the baskets to start with.

Few Orchids deserve more care or attention; they well repay for the room they occupy and the labour expended upon them. A small house filled with them, when *Adiantum cuneatum* is employed as a groundwork, is most effective at this time of the year.—G. O.

PRICES AND QUALITY OF APPLES.

YOUR correspondent "W. P. W." (page 502) hits the right nail on the head. The successful man in fruit growing in the future will be he who, no matter what may be the number of his acres, grows fine fruit, of good appearance and quality. It often annoys me to hear people say that fruit tree planting has been overdone, is being overdone, and that our markets are glutted with Apples which will not pay for the expenses of pulling and conveyance. Of course the markets are glutted with a certain sort of Apples, or rather I would say with fruit which by courtesy are called Apples, but which would more fitly be described as Crabs. These miserable specimens, the produce of old, worn-out, starved to death orchards, are simply almost unsaleable, and the sooner their owners recognise the fact the better it will be both for themselves and the public. Every market man knows the truth of all this, and were proof required it might easily be furnished. I well remember one day in 1890 going into our local market and seeing tons of these poor Apples selling with difficulty at 3s. per bushel, when a man from the country arrived with a cartload of Apples grown upon pyramid trees, and sent in as they should be in prime condition, well coloured, and carefully handled. What a commotion he made. The lately unwilling purchasers rushed after him, and almost before he could unload his hampers the fruit was sold at 16s. per bushel; those who secured it looking upon themselves as fortunate, whilst many went away grumbling because they could not be supplied.

Do we want another picture? In the *Journal of Horticulture*, December 3rd, 1891, we read that the imports of American Apples into Liverpool during the first half of the previous season (1890) were 96,628 barrels, whereas up to the date of that issue, or half the season (1891), they reached the enormous number of 369,880 barrels. Again, I take up a market report of October 7th, 1892, and find that the imports for that one week were—Liverpool, 36,000 barrels; Glasgow, 16,000; London, 13,000; making a total of 65,000 barrels sent into three of our ports during one week. Does this look like a falling off in the demand? Then, again, the prices in 1891 ranged from 10s. to 20s. a barrel, whilst in 1892 they ran from 12s. to 18s., showing no diminution in price. It is scarcely necessary to say that this enormous and growing demand for American Apples is not from any merit they possess in point of quality, for the cooking varieties are not to be compared with good English fruit, but simply from their size and the fact that they are sorted and all the small ones left at home. Of course I expect to be told that if the cooking varieties are inferior to our English fruit the Baldwins and Newtowns are quite the reverse. That may be the opinion of some, especially those to whose weak digestions the soft and melting fleshed American Apples are suited; but I am sure the great majority will give their vote in favour of

a neat, well-coloured, crisp Cox's Orange Pippin, a verdict which I most heartily endorse.

Your correspondent's remarks are just what is wanted at the present moment. As he says, the old-world growers must find out by bitter experience that they are out of date; but there are numbers who contemplate planting, and yet fear to launch their bark, hearing these dismal rumours of bad sales. To such, if there be any, who read your "Journal," and probably, being seekers after knowledge, there will be many, I would say, Be bold. Fruit culture is yet in its infancy; with a population consuming less than half the quantity of fruit per head than our Continental neighbours eat, with allotment gardens multiplying in our midst, and growing a few fruit trees just to whet the appetite and educate an enormous new fruit-eating public, there is every prospect that the demand for good fruit will increase by leaps and bounds. Only one word of caution is needed, Plant good kinds suitable to your district, and do not plant more than you can properly manage. Let the lesson of poor starved fruit be always before your mental vision, but never in your sight.—A. H. PEARSON.

THE price of the Domino Apples—namely, 4s. 6d. per bushel, as stated by your correspondent "W. P. W.," in your last issue, page 502, is widely different from 6s., which was stated previously, and which I suppose was a price estimated before the fruit was gathered. I should also like to know whether 4s. 6d. is the market price or the net price home, for if it is the market price it would be reduced to 3s. 6d. or 2s. 6d., according to distance of the market. The average price, as stated by me in your issue of December 1st, was 2s. 9d., not 2s. as your correspondent quoted, so that our prices are not so widely different as appeared at first, especially if 1s. 6d. a bushel is considered as immaterial. The price of 2s. a bushel, mentioned in my last communication (page 478), was an extreme price. Is 4s. 6d. a bushel also an extreme price—the other way?

"W. P. W." then refers to the different prices received by two different growers in Kent, the one a large grower whom he thinks does not attend well to his trees, and the other a small (?) one who only has 100 acres of ground, and who cultivates his ground well (respecting which your correspondent gives some interesting details), and by inference implies that I am to be classed with the former. In defence of my position and prices which I receive I may be allowed to state some facts without being considered boastful. My ground is at present only about 40 acres, all of which is under fruit cultivation, and which is my own property. My wages bill for men averages about £10 a week, or £500 a year, and for women as much as £30 a week in the season. My manure bill I estimate at about £500 a year, so that I do not think it will be considered I neglect my ground either as regards cultivation or manure, and from the wages of the women it will be seen that the crops are usually heavy, for three-quarters of the ground has only been planted five years. Then as regards marketing. I send to the principal markets of England, Scotland, and Ireland, and from the three towns to which I have sent most constantly my salesmen have told me, unsolicited, that my fruit is acknowledged to be the finest and best packed that goes into them, and that it always realises the highest prices. The other salesmen give similar testimony. Because of my knowledge of the markets I am able to buy a quantity of fruit from various other growers within a radius of ten miles, as I can give them a higher price than they can otherwise get. Last year I bought about 130 tons, and this season about 60 tons. My outlay for baskets is about £800, and increases every year.

I think I have said sufficient to show that my prices may be taken as at least fairly representative ones, and also that a considerable amount of capital is required for working a fruit farm well, as there are horses, vans, and many other things to take into consideration. Of course higher prices can sometimes be obtained from a special customer. My object in writing in the first place was simply in order that readers of your journal should not be misled by seeing 6s. a bushel stated as the price of Apples, when the average price of good sorts of Apples home to the grower has been very much less. I am glad to find that my views are supported by "one of the largest fruit growers in Kent."

From statements which have appeared in some of the horticultural and other papers two things might be considered as axioms—first, that the present race of fruit growers are a set of blockheads; and secondly, that if readers would only go into fruit growing it would be a sort of Eldorado. I do not think that "W. P. W." wishes to imply this, but the effect of his remarks, coming after such statements, must be taken into consideration. I do not deny there are some very poor fruit growers, as there are lawyers, gardeners, and others; but I hardly think all are to be considered as belonging to this class.

There are hundreds of men on the look-out for the best sorts,

and ready to extend their plantations almost indefinitely if fruit growing pays well, the one question with them being, Will it pay? I do not say there is no profit in fruit growing, but it is not the lucrative business that it is estimated to be by some people; and I still adhere to my statement, that in consequence of the low price of fruit growers have to enlarge their holdings to get the same profit as they used to do from a smaller extent of ground. A few years ago 3d. per pound, or 6s. per half sieve, was the usual price for Black Currants, as Lea's "Small Farms." The average price home per half sieve from London markets from 1882 to 1888 is as follows:—4s. 1d., 2s. 10d., 3s., 4s., 1s. 8d., 3s., 3s. 3d. Since then it has been higher, but crops have been light the last two years.

I quite agree with your correspondent as to the benefit of good cultivation, and I think in the main our views are the same. I repeat what I said before, that it is my opinion that if fruit growing is to pay the best sorts must be grown, and the fruit cultivated and marketed in the best manner.—WALTER KRUSE.

ONE reason for the prices of Apples being so low in the autumn is the glutting of the markets with "windfalls," the result of heavy gales. These have been sold as low as 1s. 6d. a bushel. One grower picked up and took into the market sixty bushels of fallen Apples in one day. A second reason why Apples are so cheap at Michaelmas time is that so many "little people" have their year's rent to get ready that off goes the fruit, good or bad in quality, to the market and sold for what it will fetch. The two causes named are sufficient to glut any market for a time with inferior fruit, and for which there is no present remedy. It is not in the power of the persons alluded to to destroy the old and inferior trees and to plant new, they being the property of someone else. In spite of this, though, good fruit finds a fairly quick sale. One grower of about eight acres of mixed fruit told me a short time since that he had grown fruit for twenty years, and the better he grew it the better he could sell it, and notwithstanding increased competition he had no trouble to get rid of all he could grow at good prices.—E. MOLYNEUX.



THE NATIONAL CHRYSANTHEMUM SOCIETY.

I WISH Mr. Charles E. Pearson would drop such a term as "metropolitan exclusiveness." The Floral Committee is openly elected by the General Committee at the first meeting after the election of one-third of the number of the latter, a meeting to which all representatives of affiliated societies are invited. We generally get sixteen to eighteen candidates nominated to fill the five vacant seats on the Floral Committee, and the contest is always a spirited one, and the voting remarkably even. It is an excellent opportunity for the representatives of affiliated societies to nominate from the provinces, but they do not do so. In an open election, with on an average from fifty to sixty persons present, how can there be "metropolitan exclusiveness?" I think the Floral Committee adequately and completely represents all classes of Chrysanthemum cultivators. If Mr. C. E. Pearson will send me the names of two or three provincial growers, members of the Society, qualified in his opinion to be members of the Floral Committee, I will take care they are duly nominated for election; but I cannot in any way control the voting. It appears to me to be a mere waste of time to discuss the question alluded to in the latter part of Mr. Pearson's communication until he himself or those who think with him are prepared to indicate an alternative place. I am repeatedly challenging objectors to do so. I am still waiting for them to name a more suitable building so central and so readily reached from all parts.—RICHARD DEAN, *Secretary*.

THERE are numbers of persons like your correspondent Mr. W. H. Divers (p. 509) who are looking out for a satisfactory issue of the matter that has been brought before the N.C.S. by Mr. Godfrey. Mr. R. Dean, like the good secretary he is, appears ready to pitch full tilt at anything and everything that turns up; but no amount of noise and bustle will silence the real question in which the public are interested, and what we require from the Committee is a straightforward and definite expression of opinion on the subject. Either Mr. Godfrey has made unfounded charges against a member of the Committee or they are substantially true. Why all this delay in an explicit statement? The allegations are either true or untrue. The case could be settled beyond all dispute in a few hours. The best thanks of the Chrysanthemum world are due to the Editor of this Journal for the impartial manner he has treated the whole question. I am beginning to form the same opinion of the Floral Committee as a very prominent exhibitor has done—namely, there are far too many tradesmen on it. Surely there

are sufficient Chrysanthemum specialists to act as the Floral Committee without trade growers. This would place the nurseryman above the suspicion of voting on the side of his bread and butter. I am exceedingly pleased to see we have no anonymous writers on this matter, which serves to show clearly every one has the courage of his opinions and the boldness to express them.—JAS. B. RIDING, *Chingford*.

CROYDON CHRYSANTHEMUM SHOW.

WE are informed that the Borough of Croydon Chrysanthemum Society's Exhibition will be held on November 8th and 9th next year.

CHRYSANTHEMUMS IN THE ANTIPODES.

WE learn that an Australian Chrysanthemum Society has been started in Sydney, New South Wales, and another at Cambridge in New Zealand. From this one may infer that the Chrysanthemum is becoming as popular in the colonies as it is in this country.

CHRYSANTHEMUM W. W. COLES.

EARLY formed buds of this variety invariably produce yellow blooms, or nearly so. The florets in this case are fluted at the base, more so than in those developed later. From the remark made by "J. H. W." (page 509) "in every case the yellow blooms appeared first" leads me to infer that the suggested sport appeared on several plants, which strengthens my opinion that the yellow blooms are the result of early formed buds rather than a distinct sport.—E. M.

MONS. R. BAHUANT.

I SHOULD very much like to know the proper pronunciation of Mons. R. Bahuant through the medium of the *Journal of Horticulture*.—JOHN BULL.

[It is not easy to clearly represent the pronunciation of many French names in print. In this case Bahueang is suggested for improvement by expert orthoëpists. The "h" is not pronounced so forcibly in French as in English, and the "u" has much the same sound as "ue" in *flue*.]

CHRYSANTHEMUM VIVIAND MOREL.

ALTHOUGH the quality of the blooms shown of this variety have not been of such all-round excellence as they were last year, when fewer were staged, it has been sufficiently good to rank as the best Japanese of the year. From statistics gathered from the report of twenty-five Shows, where a prize was offered for the best Japanese, Viviand Morel won fifteen times. The poorer quality of the blooms may be accounted for by the fact of there being such a "run on" this variety; owing to the wonderful manner in which it was exhibited last year, compelled nurserymen to propagate closely to execute orders.—E. M.

THE HARTLEPOOL CHRYSANTHEMUM SOCIETY.

THE Committee of this Society are to be congratulated on the success of their last Show. Starting the year with a balance on the wrong side, and after paying all prize money and expenses incurred, the Treasurer's balance-sheet now shows £42 7s. 4½d. on the right side. The Committee made determined efforts and had ready help afforded them in various ways, particularly in respect of the generous offer of Capt. D. G. Irvine to provide a magnificent band, which was thankfully accepted, and the splendid selection of high-class music rendered by it contributed greatly to the enjoyment of those present, besides attracting large numbers of visitors. In recognition of the untiring services of the Honorary Secretary, Mr. A. Taylor, gardener, Broomhill, a silver albert was presented to him through the Chairman, Mr. J. F. Wilson, on behalf of the Executive Committee.—G.

JOHN FARWELL AND VIVIAND MOREL.

WE send by post a couple of blooms of this variety for your inspection. These will give you an idea of the size and form, though not of the colour, they being considerably past their best. The fresh blooms are a beautiful rich crimson, one of the most distinct colours we have. We also send a photograph of a plant of Viviand Morel, carrying four of the finest blooms we have yet seen. The largest of them measured 14½ inches in diameter when the florets were held up horizontally.—J. R. PEARSON AND SONS.

[The blooms of John Farwell were large and massive, full of narrow, semi-fluted florets, and borne on strong, clear stems. Such plants as they were cut from would be effective in groups, as also would Viviand Morel, grown so well as it is represented in the photograph in question.]

SENDING CHRYSANTHEMUM CUTTINGS BY POST.

THE condition of some cuttings just to hand through the medium of the parcels post has prompted me to write a note on this subject. If private gardeners would only copy the Chrysanthemum specialist in this there would be no need for any suggestion on my part. Unfortunately they will not take a hint. The worst form of packing cuttings to go by post (and I am sorry to say it is a plan very often adopted) is that of wrapping them in cotton wadding, simply encasing that in brown paper. Sometimes a label is attached for the address and stamps, but where this is absent the cuttings are very often smashed by the force in which the post office stamp is employed. The wadding absorbs the moisture from the cuttings. When these are weakly, as is very often the case with new or scarce varieties, the chances are that the bulk of those packed in that manner fail to strike. Cuttings are sometimes sent simply enclosed in an ordinary letter without a vestige of packing

except that afforded by a sheet of note paper. Freshly gathered damp moss is the best material for packing, and light tin boxes the most suitable receptacle for sending them in, even better than wood; no absorption of moisture takes place when packed in tin boxes. A thin layer of moss at the bottom of the box and on the top of the cuttings keeps them fresh and cool for several days if necessary. If a quantity of cuttings are sent a layer of moss between occasionally is useful.—E. MOLYNEUX.

[Specimens of flowers sent to this office to be named invariably arrive in the best condition when packed in damp moss or soft freshly cut grass in closely fitting tin boxes. Those which arrive in the most withered state are enclosed in dry wadding, while many are spoiled by being crushed in the post. Our experience is in close accord with that of our correspondent in his well-timed note on packing cuttings of Chrysanthemums.]

PREMIER BLOOMS.

WHETHER or not the blooms that gain the premier award are found in the prize collections, I think the offering of such is attendant with some beneficial results. If only to educate the ordinary sight-seer as to what constitutes an ideal bloom in each section something is gained. Many times have I heard the remark in a show room, "Amongst all these blooms I wonder which is considered to be the best." The notification of the premier award settles this query. Although such awards do sometimes go to the prize stands it is not invariably the case. At one large exhibition this season, where close upon 2000 blooms were staged, the premier Japanese was found in an unplaced stand, a result keenly appreciated by the owner. I have known the premier bloom in the incurved section found in an amateur's stand, even when professional growers were taking the leading prizes in the "thirty-six" classes. The recipient in question felt not a little proud of the achievement. Seldom are the blooms anything like as good when a class is specially made for one instead of selecting the premier from any stand, and in no sense can they lay claim to the premiership in an educational point of view. Some societies offer a silver medal for the best bloom in each section. This is an honour much coveted by the recipient.—E. M.

CHRYSANTHEMUMS IN THE LONDON PARKS.

"VISITOR'S" note (page 481) on this subject seems rather ill-natured. One would have thought that the proposal to give some awards to the superintendents of the County Council parks for the best display of Chrysanthemums would have been received with pleasure, and have shown that the County Council was evidencing more than an ordinary interest in the work of their park superintendents. As to the making of such awards, it requires no exceeding ability to discern after careful scrutiny by any impartial person which of the parks had the best Chrysanthemum show. It is so obvious that the County Council desire to give their park gardeners all possible encouragement, that the note struck by "Visitor" seems very discordant. It is true all have not the same facilities, but no doubt efforts will be made presently to put all the parks so far as possible on the same footing or basis.—D.

CHRYSANTHEMUM MRS. A. HARDY.

IN looking through the reports of the recent Chrysanthemum shows it is noticeable how few times this variety has appeared upon the exhibition boards. I may not be correct, but I do not think it has been exhibited many times this season; the reason, I suppose, is the difficulty in its culture. I have seen several collections this season, but I have only seen one good bloom of it, and that was exhibited at Cardiff. I have tried to grow it for two seasons, but have failed to get a decent bloom. Some say grafting it is the best way to succeed, so last spring I inarched it on a strong plant of Fair Maid of Guernsey, and although it grew strongly for a time it failed to produce a bud. The best blooms I ever saw of it were exhibited at Bristol last year by Messrs. Drover, and I believe they showed some good blooms of it again this autumn there. I have no doubt it would be interesting to other readers besides myself if some of the successful growers would record their mode of culture in the *Journal of Horticulture*. It seems a pity that such a good thing cannot be more often seen.—R. M.

GOLDEN WEDDING.

IN a report of the New York Show, sent to us by an English visitor, and published in our issue of the 24th ult. (page 462), the above variety is alluded to as follows:—"Golden Wedding of Peter Henderson & Co. is by a long way the finest and largest golden yellow Japanese incurved I have yet seen. It was awarded the first prize for the best variety in the Show. Messrs. John Laing & Sons, Forest Hill have secured the European control of this grand sort." In reference to that precise statement, Messrs. H. Cannell & Sons write as follows:—"We had, as far as we knew, purchased a stock of Golden Wedding Chrysanthemum from Messrs. Peter Henderson of New York before we saw it stated in the 'Journal' that Messrs. Laing & Sons had the control of the whole stock in Europe. We immediately wrote Messrs. Peter Henderson to telegraph either 'Yes' or 'No.' The enclosed is their reply, appointing us to have control of distributing the above variety in Europe." The telegram sent to us by Messrs. Cannell, as handed in at the New York office at 5.15 P.M., and received at Swanley 5.56 P.M., December 6th, is, "Yes.—Tritoma." Can the confusion have arisen through Messrs. Peter Henderson & Sons having sold stock to both the firms in question? We shall be obliged if the great American firm will supply us with information on the subject. After what has transpired there is bound to be a sharp look-out for Golden Wedding Chrysanthemum in England.

NEW CHRYSANTHEMUMS.

(Continued from page 510.)

INCURVED.—*George Cockburn*.—A bronze coloured sport from Princess Beatrice, but having all the appearance of making a larger bloom than its parent. The foliage is remarkable for its robust character. As a front row bloom this should be of service. Experienced adjudicators always think highly of Princess Beatrice when in good condition on account of the difficulty in obtaining it so.

Princess Alvie.—I saw this in a stand at the Exeter Show, but whether new or old I am unable to say. I cannot find it mentioned in any catalogue or book. The bloom reminded me very much of Jeanne d'Arc in its form, only the petals were not quite so toothed; the colour was deep pink and quite pleasing.

JAPANESE.—This section has been enormously added to during the last year from all quarters of the globe, I might say, in addition to the many English raised seedlings which are being annually introduced, and not only the French but the American raisers will have to look to their laurels in the matter of introducing the finest varieties. So numerous and good as the finest in this section that I shall class them under their different colour, commencing with white varieties, as without doubt they are the most popular.

Beauty of Exmouth (Godfrey).—This has created much interest of late. I look upon this variety as one of the finest whites in existence. It is an English raised seedling, Avalanche being one of its parents, which is a sufficient guarantee of its form being good. In colour it is ivory white; the blooms are massive, from 7 to 8 inches in diameter and proportionately deep; the florets are narrow, incurving as the blooms expand; with development the florets straighten outwards, some still retaining the curl at the tips. I have seen blooms produced from early crown buds, and I have seen them on terminals grown in quantity, and in all stages it preserves its steadfastness. It is undoubtedly a grand variety and has obtained thirteen certificates.

Marquis de Paris.—This is not a giant, but it is one of those full solid flowers that exhibitors would do well to make a note of. The florets are moderately broad; from early buds many are split or forked at the tips. It is dwarf in habit, a step in the right direction.

Princess May (Agate).—An English seedling of the purest white. The florets are long, narrow, and droop in a charming manner. It is a full solid flower of large size; the habit of growth is quite of the best, being sturdy and not too tall.

Gaetano Guelphi.—This belongs to the medium sized class, and is a pure white; the long narrow florets curl at the point and droop gracefully. It is altogether a charming addition to an already numerous section.

Madame Leblanc.—A snow-white flower, with broad flat florets, slightly pointed; a full and promising variety.

Mr. C. Myers.—This belongs to the class known as October flowering varieties, much in the style of Eynsford White, but smaller; useful where early white flowers are required.

BRIGHT COLOURED VARIETIES.—As usual, there are not added in large quantities, but a distinct advance has been made even in this respect by varieties raised by Mr. Shrimpton.

William Seward.—Just the colour that has long been wanted—purple crimson, reverse of the florets gold, although little of this is seen in fully developed blooms. When the florets are unfolding the gold is visible. This variety will do much toward brightening many stands which lack colour; white, yellow, and lilac tints very often predominate. This new variety is devoid of any semblance to coarseness. The florets are narrow and semi-drooping, the flower being quite full in the centre. Well developed blooms measure nearly 8 inches in diameter. The habit of growth is said to be of the right kind, from 4 feet to 5 feet high. Taken altogether, I look upon this as one of the chief novelties of the season, for never have we had such a well formed flower of such a striking colour.

James Shrimpton.—Another extremely bright coloured variety from the same source. To say at once that it is an immense Cullingfordi would be the most exact and easiest description, as undoubtedly it is. Taken altogether it is a magnificent front row bloom, and a grand companion to Avalanche.

G. W. Childs.—Apparently a seedling from Edwin Molyneux, which it much resembles in form and colour, except that there is a suffusion of plum colour on the surface of its florets, especially in its young state, more dense than in its parent.

Beauté de Toulousaine.—This has flat florets of a rich red colour, very promising as an exhibition variety.

C. Shrimpton.—Somewhat like Gloire du Rocher, but with broader and longer florets, brighter in colour.

Excelsior.—An English seedling; a full-centred flower, the florets not too stiff. The colour is bright rose-cerise, the under side of the flat florets silver. It is decidedly a conspicuous bloom in a stand, and one that exhibitors should make a note of.

G. C. Schwabe.—This has been largely exhibited during the past season, and is a flower deserving of encouragement, as it possesses quality, having fairly broad florets which are quite full in the centre; the colour is distinct and pleasing, bright carmine rose. A seedling from Edwin Molyneux, of which it partakes in habit of growth.—E. MOLYNEUX.

N.B.—A mistake has occurred in placing Chrysanthemum Mr. A. Jacobs in the incurved list on page 510. It is a Japanese.—E. M.

(To be continued.)

FRUIT—A PLETHORA OF VARIETIES.

UNDER the above heading a correspondent on page 500 of your valuable paper of December 8th mentions my collection of Apples exhibited at the Hereford Fruit Show, and goes on to ask if it is a healthy sign to find so many varieties offered to the public. I may say that my collection contained about 270 distinct varieties, with about thirty varieties of Pears, but not including cider Apples, which were in a separate collection shown in a different part of the building. When I mention the fact that it was subdivided into four different divisions—viz., The best Apples to grow for market (containing only about twenty-five varieties), a general collection of culinary Apples, a general collection of dessert Apples, and the best flavoured dessert Apples (containing about thirty varieties), and that on the name card attached to each variety a few words were added as to its season, qualities, &c., not always praising it, but when necessary showing its bad qualities, as "Cellini, liable to canker on some soils," "Old Golden Pippin, too small," &c., I think even your correspondent will acknowledge that a large collection may be educational. I think myself that it is often very much so, as it shows growers, side by side, with varieties of which they have had a high opinion, other sorts greatly superior.

I think such collections are quite as instructive, if not more so, as small collections (shown for competition), which usually contain a good proportion of sorts useful for exhibition only. My chief object in writing is not, however, to describe my own collection, but to open up the subject as to whether our nurserymen can reduce their lists, and if so to what extent; and I think your correspondent will find this a much more difficult question to answer than he thinks. A nurseryman who does more than a local trade has to cater for different persons, who look at fruit growing from very many points of view. 1st, There is "the grower for market only;" 2nd, "The grower for private consumption only;" 3rd, "The grower who likes to exhibit sometimes;" and then there is "the grower who makes a hobby of fruit growing, who takes a pleasure in seeing the variations in colour, size, and qualities of the different varieties; who likes to test those sorts, new or unknown to him, and find out their suitability for his soil or climate, without thought of profit." I will treat first with "the grower for market."

I have never advocated that the grower for market should go in for a large number of varieties, and in a short paper I read before our local Chamber of Agriculture in 1885, almost before the revival in fruit growing began, on "Profitable Fruit Culture," I said, "Do not plant too many sorts; plant sufficient of each variety to pay you to pick and market a bulk of each variety separately." These are still my views; in my own plantations I have planted to grow fruit for market. I do not think I exceed eighteen varieties, but if I lived in a different county, or on a different soil or even aspect, it is very likely these sorts would be greatly changed. My advice to growers for market has always been, Test fresh varieties on a small scale, find out those sorts which suit you, and plant those only largely.

2nd, There is "the grower for private consumption." I find tastes vary in Apples as in other things. There are many different tastes; some like a highly aromatic Apple, others a sharp crisp one, others again a soft-fleshed Apple. They also want more variety and sorts to last in succession over as long a season as possible, and to meet all requirements as dessert or cooking Apples. Many do not look at the cost of production so long as they can have Apples of their own growth.

3rd. There is "the grower for exhibition," who likes to have handsome dishes of fruit for showing or on his table, independent of whether they are heavy croppers, or of good quality for dessert or cooking. There is also "the grower for pleasure." Why should not such a man have as great a variety of Apples as well as flowers? A beautiful Apple gives as much pleasure to a pomologist as a beautiful flower to a florist. Again, if there were no growers who tested new or little known varieties, when would the qualities of those come to light? Your correspondent's own list contains sorts not long introduced and which have been little tested yet on a large scale and in different localities. We can advance in varieties of Apples as in other things.

To add to all this, there are "varieties most suitable to grow as dwarfs," "varieties most suitable to grow as standards," and others "most suitable for ornamental planting, either for the beauty of their fruit or flowers," "varieties most suitable for different climates, localities, or soils, north, south, east, or west." In either of these localities I could name Apples known chiefly or only locally, and hardly ever seen in a nurseryman's catalogue, which succeed admirably in their respective districts, and are known well in them for their good qualities, and which withal sell well in their markets. Your correspondent gives a list of forty-three varieties, which he states "we really cannot do without," and of course does so honestly, from his point of view and experience; but I could name scores of varieties which from my point of view are far better than at least one-third of them. Besides my full catalogue I issue a short one, containing only about fifty varieties of Apples, which I believe from my experience to be most reliable. But how often am I asked for my full catalogue, as the sort wanted and thought most of is not in the shorter one?

Your correspondent asks how many varieties are grown in America, and queries "Not 270 by any means." I have a catalogue before me, issued by one of the largest firms of nurserymen in the United States, who have 175 names of Apples down in their list, and sixty-eight of these they recommend for extended cultivation; but, strange to say, there are only twenty of all these I have ever heard of as being cultivated in England, and only seven which are anything like in general cultivation here. So I think it is more than probable that at

least 270 varieties of Apples are grown in America. I think where the Americans chiefly beat us is that they only send us their best fruit, properly graded and packed, keeping their inferior at home for other purposes; but this matter is gradually being righted, as we are going forward, and the Americans, if anything, are going back in this respect.

In conclusion, I think that only when nurserymen have to cater for the wants of growers for market in Kent, or the old redsand formation of Herefordshire, or any other favoured locality, will the nurseryman's list of sorts who has more than a local trade, be within your correspondent's ideal number.—JOHN WATKINS.

IXIA LILIES.

THE two "Ixia Lilies" known to horticulturists—namely, *Ixiolirion montanum* and *I. tataricum*, are both attractive border plants, and form welcome additions to any collection of hardy favourites. They are suggestive of *Camassia esculenta* in the form and colour of the flowers,



FIG. 71.—IXIOLIRION MONTANUM.

especially the first-named, which is represented in the woodcut (fig. 71), but they are not quite so strong growing as that, though very free and floriferous. *I. montanum* has been found in Persia upon the hills about Teheran and in other similar districts of temperate Asia. It is quite hardy in the neighbourhood of London permanently planted out in the borders. A moderately good soil appears to suit it better than one that is very rich, as in the latter case the growth is excessively luxuriant and the flowers proportionately few. In a well-drained position, where the bulbs become thoroughly matured, flowers are annually produced very freely, and are not only attractive in the borders, but afford a useful supply for cutting, the bright purplish blue colour being most agreeable for associating with the numerous other tints, which are more common.

I. tataricum differs little from the preceding, and the cultural observations are equally applicable to both. This species has more expanded, less tubular flowers than the other, and the colour also is rather lighter, though this varies to some extent in different plants according to the situation they occupy and their vigour. It is also more limited in

its geographical distribution, being confined to the Altaic range of mountains. Both the species have been referred to the genus *Amaryllis* by some writers, *Ixiolirion* being one of the genera founded by Dean Herbert.

ROYAL HORTICULTURAL SOCIETY.

DECEMBER 13TH.

THE first of the winter meetings at the Drill Hall, and the last of the season, proved very bright and attractive, for the large room was well filled with exhibits. Chrysanthemums were very numerous owing in part to the lateness of the season, and some were of remarkable excellence, while Orchids were numerous and fine. A special word is also demanded by Mr. G. Paul's English-grown *Azalea mollis*, in bloom at the middle of December. There was not an extensive display of fruit.

FRUIT COMMITTEE.—Present: P. Crowley, Esq. (in the chair); with Rev. W. Wilks, Dr. Hogg, and Messrs. John Lee, A. W. Sutton, J. Cheal, G. W. Cummins, J. T. Saltmarsh, W. Warren, A. Dean, G. Taber, A. H. Pearson, G. Norman, H. Balderson, F. Q. Lane, J. Hudson, G. Sage, J. Smith, W. Bates, J. Willard, G. Bunyard, and J. Wright.

As will be seen there was a good attendance of members at this the last meeting of the year. On the last occasion a dish of very large kidney Potatoes was placed before the Committee, sent by Mr. Fidler, and named *Colossal*. As the variety had been grown at Chiswick, and proved satisfactory as a cropper, free from disease, Mr. Barron was requested to have some tubers cooked. This was done, and they were reported by him as being excellent in quality. He selected medium-sized tubers. Mr. Wilks had a large one tried, and it was hard in the centre, or to use the common expression, had a "bone" in it. The Committee awarded a first-class certificate for the variety. It was raised by Mr. Brawn of Walsall.

Mr. Barron again placed on the table a bunch of the White Gros Colman Grape, previously certificated, showing that it will at least hang till nearly Christmas. The quality was excellent, far superior to its black prototype. This Grape was raised by Mr. T. Bradshaw, gardener to the Marchioness of Downshire, Hillsborough Castle, Co. Down.

Mr. John Crook, Ford Abbey, Chard, sent fruits of his Fordiana Tomato, medium sized and well coloured, but no award was made. Messrs. Vertegans & Co., Chad Valley Nurseries, Birmingham, sent fruits of *Diospyros Kaki*, a Tomato-like fruit, a mixture of sweetness and acidity, the latter greatly preponderating. It has often been tried in this country, but has never been found satisfactory even under glass (vote of thanks).

Mr. C. Turner, Slough, sent a dish of Knight's Monarch Pear. Mr. Knight accidentally distributed two of his seedlings under that name, and some of the Committee thought this the accidental one, but good all the same.

Mr. J. Toogood, Alwalton Hall, Peterborough, sent a seedling Apple, some of the fruits resembling New Hawthornden, but faulty in quality, and therefore passed. Mr. G. Cummins, gardener to A. H. Smee, Esq., Hackbridge, sent a dish of Apples—Smee's Seedling—a small dark Nonpareil-like fruit, thick skinned, and too dry to meet with much favour, and no award was made. Mr. Cummins also sent fruit of the Remborough Apple, medium-sized, and tree said to bear well. Mr. Barron was requested to see it in the summer. The Apple seems to possess a blending of the characters of the Blenheim and King of the Pippins. Mr. C. Princep, Buxted Park, sent fruits of Apple The Spires, a large Calville-like fruit, but wanting in quality, and passed.

Mr. H. Bannister, gardener to H. St. Vincent Ames, Cote House, Westbury-on-Trym, sent fine specimens of a seedling Apple resembling Cobham. The Committee desired information on the character of the tree, and to see fruits again next year. Mr. E. Corkey, Frome, sent a dish of seedling Apples, not very unlike Golden Noble in appearance, but inferior in quality (passed). Mr. James Hudson brought specimens of Golden Noble and Waltham Abbey Seedling to show that the varieties are distinct. The trees are also dissimilar in habit. The dissimilarity was admitted by the Committee (vote of thanks).

Messrs. Cooper, Taber, & Co., Witham, Essex, sent tubers of their new Potato Duke of York, a flattish kidney, said to be of good quality and a free cropper, $7\frac{1}{2}$ tons having been grown on 70 rods of ground. It is to be further tried and reported on as a variety of promise.

Mr. Barron selected from the fruit-room at Chiswick dishes of twelve varieties of Apples, suitable for dessert at Christmas—namely, Baumann's Red Winter Reinette, King of the Pippins, Beauty of Hants, Cox's Orange Pippin, Rosemary Russet, Wagener, Braddick's Nonpareil, Dutch Mignonne, Cogswell, and American Mother. Seventy varieties of Beet were also brought, but the most distinct feature about most of them was displayed by the names.

At the close of the proceedings Mr. Crowley conveyed the thanks of the Council to the members for their services during the year, together with his acknowledgment of the support that he had received from his colleagues. On the proposition of Mr. J. Cheal the thanks of the Committee were unanimously tendered to Mr. Crowley for his business aptitude and the unfailing courtesy displayed by him at the meetings.

FLORAL COMMITTEE.—Present: W. Marshall, Esq. (in the chair), Messrs. R. Owen, R. Dean, H. Herbst, G. F. Bause, H. B. May, G. Nicholson, F. Ross, R. B. Lowe, G. Gordon, W. Furze, W. Bennett-Poë,

E. Mawley, C. J. Salter, T. Baines, Harry Turner, John Fraser, G. Paul, B. Wynne, W. H. Williams, and Rev. H. H. D'Ombraim,

Chrysanthemums formed a very conspicuous feature, half filling the central staging. Mr. W. Wells sent a collection of mixed varieties, including a promising white Japanese named Mrs. Jerome Jones, which is noteworthy for its very substantial florets. Mrs. Libby Allen was also conspicuous (bronze Banksian medal). Mr. Blair, Trentham Gardens, staged a stand of twenty-four incurved, which, considering the late date, were remarkably fine, being large, full and smooth. There were a splendid half dozen of Mrs. Robinson King. Miss Haggas was also exceptionally fine. Mr. Blair also had a grand box of twenty-four Japanese, in which Lilian Bird, Mons. Carrière and Mrs. Clarke were admirably represented together with many others (silver Banksian medal). Mr. Robt. Owen had a large collection of new and choice varieties. Viscountess Hambledon a white or blush Japanese, was very fine in petal. Peter Blair is a narrow floretted Japanese with petals of a peculiar old gold hue. Robt. Owen is a large yellow incurved with broad florets. Waban is a large blush Japanese with a rosy carmine wire to the florets. Several of these received awards and are described below. A silver Flora medal was awarded for the collection.

Messrs. Cannell & Sons had a number of their Cyclamens, the strains being noteworthy for free blooming and splendid flowers. It is hardly necessary to say that the plants were well grown (silver Banksian medal). Messrs. G. Paul & Son, The Old Nurseries, Cheshunt, had a most seasonable exhibit in the form of a group of berried and foliage plants, such as Pernettyas, various Hollies, Aucubas, *Hedera helix palmata*, and others; also *Azalea mollis* in bloom. These were remarkable in consideration of the early date of their blooming. They had been grown at High Beech, and were exhibited to show the adaptability of the plant for very early forcing, which fact they proved in a striking manner (silver Flora medal). Mr. H. B. May contributed a group of well grown, clean, and healthy Crotons of table size (silver Flora medal). Messrs. Veitch and Sons exhibited some new Japanese Camellias, which are referred to below; also the beautiful Begonia Winter Gem, a dwarf grower with brilliant rosy crimson flowers. Mr. T. S. Ware sent pans of *Corbularia Clusi* and pots of *Iris histrio*, both making beautiful objects. Messrs. Pitcher & Manda received a silver Banksian medal for a collection of Chrysanthemums, in which Lord Brooke and Mrs. Libby Allen were conspicuously fine. Mr. Wythes sent a group of decorative Chrysanthemums and also a basket of Hellebores.

ORCHID COMMITTEE.—Present: H. J. Veitch, Esq. (in the chair), Baron Schröder, Messrs. J. O'Brien, De B. Crawshay, T. W. Bond, C. J. Lucas, W. H. White, F. Sander, S. Courtauld, E. Hill, J. Jacques, A. H. Smee, H. M. Pollett, J. Douglas, T. B. Haywood, and Dr. Masters.

Mr. Wythes, Syon House Gardens, Brentford, sent a splendid group of *Cypripediums* and *Calanthes*, the plants being of the most vigorous and healthy character, with abundance of bloom. As coming from a private garden this collection was very noteworthy. Messrs. B. S. Williams & Son had a small, but interesting, group of Orchids, comprising *Odontoglossum Rossi albens*, *Cypripedium Pitcherianum* variety, *Calanthe Oweniana*, *C. Hookero-Veitchi*, and others. Messrs. Hugh Low and Co. had a small group, comprising *Cypripedium insigne* Wallacei, a good plant of *C. Leeanum*, *C. nitens*, *C. Chamberlainianum*, *C. bellatulum*, *Vanda Amesiana*, and others. Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, sent a pan of *Sophranitis grandiflora* full of bloom, *Dendrobium Burfordiense*, a hybrid between *D. Linawianum* and *D. heterocarpum*, *Laelia autumnalis atro-rubens*, *Masdevallia gargantua*, and a number of *Calanthes*, these comprising some delightful varieties, such as *versicolor*, *Burfordiense*, *bella*, *rose nivea*, and *Veitchi splendens* (silver Banksian medal). P. Crowley, Esq., sent *Angræcum pellucidum* with two spikes of its transparent yellow-tinted flowers. W. E. Ellis, Esq., sent *Dendrobium Phalaenopsis Schröderianum*. Messrs. Pitcher and Manda were represented by a collection of *Cypripediums*, chiefly composed of varieties of *C. insigne*. Messrs. Sander & Co. had a group full of interest, comprising *Cypripedium Calypso*, *Oakwood* variety; *C. Johnsonianum* (see below); *C. Lathamianum*, Clark's variety; *C. Leeanum*, Andenshaw variety; *C. Alcidis superbum*, *C. Leeanum gemmatum*, *Laelia Gouldiana*, *Cattleya O'Brieniana*, *Laelia Oweniana*, *Odontoglossum Insleayi splendens*, *Dendrobium Cassiope*, *Cypripedium Chamberlainianum* and others. *Cypripedium insigne* Sanderæ was exhibited by Norman Cookson, Esq. It is a lovely form, the labellum and petals being of a clear pale yellow, the staminode deeper yellow, the dorsal sepal yellow veined with green and with a broad margin of white.

Mr. Bolton, Warrington, sent *Cypripedium Chamberlainianum giganteum*, and others. T. Statter, Esq., contributed several *Cypripediums* and *Laelia Gouldiana*. Mr. Brymer sent *Oncidium insculptum*, *Dendrobium Treacherianum* (botanical certificate), and *Laelia anceps Barkeri*. R. J. Measures, Esq., sent *Pleurothallis punctulata* (botanical certificate), and a number of *Cypripediums*. M. Wells, Esq., Broomfield, Sale, contributed *Cattleya labiata alba*, a beautiful white form (see below). W. Thompson, Esq., Stone, sent *Masdevallia hybrida* *McVittiae* (*tovarensis* × *Veitchi*) (see below). G. D. Owen, Esq., Rotherham, sent *Cattleya amethystoglossa*, *Selwood* variety, and *Laelia anceps Oweniana* (see below). Messrs. Veitch & Sons had a *Sophranitis* *Calypso* (see below), *Epiphranitis Veitchi*, and several *Cypripediums*. Arcté received an award of merit (see below). C. E. Smith, Esq., Cobham, sent a grand plant of *Cypripedium insigne* 4 feet across, and carrying ninety-six blooms. (A silver Banksian medal was awarded). G. Lutwigh, Esq., received a bronze Banksian medal for some fine examples of the same Orchid.

CERTIFICATES AND AWARDS.

Chrysanthemum Mrs. Robinson King (Mr. Blair).—This yellow incurved has been described frequently, and needs no special comment (award of merit).

Chrysanthemum Enterprise (Mr. R. Owen).—A charming variety difficult to classify. It is neither a true large nor Japanese Anemone, but is likely to become popular for all that. The guard florets are soft rosy pink, the centre lemon (award of merit).

Chrysanthemum Viscountess Hambledon (Mr. R. Owen).—A Japanese with very broad, substantial, incurving florets, white, in one example also streaked with mauve (award of merit).

Chrysanthemum Waban (Mr. R. Owen).—A large Japanese with broad florets, white flushed with rose, and with a clear edging of rosy carmine (award of merit).

Chrysanthemum Robert Owen (Mr. Owen).—A large, deep, and massive incurved, rich deep yellow (award of merit).

Camellia Sasanque (Messrs. Veitch & Sons).—This is a single species from Japan with bright rose flowers, having prominent yellow stamens, and described as hardy. It is a beautiful species, and may prove valuable for hybridising (first-class certificate). A double white form was also shown.

Sophro-Cattleya Calypso (Messrs. Veitch & Sons).—This beautiful bigeneric hybrid is a cross between *Cattleya Loddigesi* and *Sophrontis grandiflora*, the former being the seed parent. It is a charming and richly coloured flower, the sepals and petals being rich rosy carmine, the throat buttery yellow, the lip deeply margined with rosy carmine. It is dwarf with lanceolate leaves (first-class certificate).

Cypripedium Arête (Messrs. Veitch & Sons).—This is a hybrid between *C. Spicerianum* and *C. concolor*, the former being the seed parent. It is a miniature form with marbled leaves and speckled flowers, the ground colour being white or greenish, speckled and streaked with rose (award of merit).

Chrysanthemum Mlle. Marie Recoura (Messrs. Cannell & Sons).—A large white Japanese with long slender florets, likely to turn out valuable for late use (award of merit).

Cypripedium Johnsonianum (Messrs. Sander & Co.).—This hybrid is a cross between *C. nitens magnificum* and *C. Lawrenceanum*. The lip petals are of burnished purple. The lower area of the dorsal sepal is deep green, the upper portion and edges pure white, lines of purple dots running through from top to bottom (award of merit).

Lælia Fincheniana (C. W. Finchen, Esq.).—A charming form with pure white sepals and petals. The prominent lip is white with a broad patch of magenta; the wings of the tube are white with magenta streaks (award of merit).

Cattleya labiata alba (M. Wells, Esq.).—A pure white form of *labiata* emanating from a portion of Messrs. Sanders' importation. It is absolutely pure white save for a lemon tinge in the throat, and extremely beautiful (first-class certificate).

Masdevallia hybrida McVittie (W. Thompson, Esq.).—A hybrid between *tovarensis* and *Veitchi*, with bluntly lanceolate leaves and pale rosy-mauve flowers (award of merit).

Cattleya amethystoglossa, Selwood variety (E. D. Owen, Esq.).—A distinct and attractive winter flowering form, having long slender pseudo-bulbs, with a cluster of six flowers. The sepals and petals are cream coloured with a number of magenta blotches, the tip and the edge of the tube rich magenta (award of merit).

Lælia anceps Oweniana (E. D. Owen, Esq.).—A charming and richly coloured variety, with petals and sepals of a brilliant rose, paler at the base and with conspicuous white patches. The lip is rich magenta and the yellowish throat is streaked with the same colour (award of merit).

Chrysanthemum Fred Dorner (Messrs. Pearson & Sons).—A yellow Japanese, with deep globular flowers that will prove valuable for decorative purposes if free in blooming (award of merit).

NATIONAL ROSE SOCIETY.

ANNUAL MEETING.

THE sixteenth annual general meeting of the National Rose Society was held in the rooms of the Horticultural Club at the Hotel Windsor, Victoria Street, S.W., on Tuesday, December 13th. The Rev. W. Wilks, in the absence of the President of the Society, the Very Rev. the Dean of Rochester, occupied the chair, and there was a large attendance of members. The first important item on the agenda was the reading of the Report for closing year, and the financial statement, both of which are given below.

REPORT OF THE COMMITTEE FOR THE YEAR 1892.

In accordance with a resolution passed at the last annual general meeting of the Society, requiring amateur exhibitors to show according to the number of plants of exhibition varieties grown by them, the Committee drew up schedules early in the year in order to meet these altered requirements. The new system appears to have worked admirably, and greatly to the satisfaction of all classes of exhibitors. Indeed, the Committee are of opinion that in taking this important step, the Society has every reason to congratulate itself on being the first horticultural society in the kingdom to adopt any such complete and equitable arrangement for the benefit of its numerous amateur exhibitors. Several of the affiliated societies have already shown their approval of the new classification by framing their own schedules on similar lines, and it is to be hoped that another year other Rose societies may follow their example.

Three Exhibitions have again been held. That which took place at the Royal Horticultural Society's Exhibition Hall at Westminster, owing to the backwardness of the season, again proved a small one. On the other hand, the Crystal Palace Show was the largest which the Society has ever held, the number of blooms staged in competition, not including garden Roses, amounting to 7100. The provincial Exhibition held at Chester was also a remarkably fine and extensive one. Unfortunately, the Show day proved wet throughout, and consequently the attendance of visitors was very limited.

A sub-Committee has been appointed to prepare a new catalogue of exhibition and garden Roses, the old one being now somewhat out of date, having been issued in 1884. Several meetings have been already held by this Committee, and it is expected that the new catalogue will be ready for distribution to members during the course of the ensuing spring.

The position of the Society, as the leading authority on all matters connected with the Rose, is fully sustained, while there are at the present time more members and affiliated societies on the Society's books than at any previous period—viz., 527 members, and thirty-six affiliated societies.

FINANCIAL STATEMENT.

The Treasurer is again enabled to report favourably upon the Society's financial position. The income from all sources, including a balance of £40 0s. 11d. from last year, was £719 7s. 11d., while the total expenditure amounted to £687 11s. 4d., leaving £31 16s. 7d. to be carried forward to the next account.

BALANCE-SHEET FOR THE YEAR ENDING 30TH NOVEMBER, 1892.

		RECEIPTS.		£ s. d.	
1891					
Dec. 1	Balance at bankers	..	..	40	0 11
	Subscriptions	..	..	368	4 0
	Donations	..	..	15	0 0
	Affiliation fees and for medals from affiliated societies	..	..	88	18 0
	From Crystal Palace Company	..	..	105	0 0
	„ Chester	..	..	70	0 0
	Special prizes	..	..	11	5 0
	Catalogues sold	..	..	9	11 6
	Advertisements	..	..	20	8 6
				£719	7 11
1892.					
Dec. 1	Balance	..	..	£31	16 7

EXPENDITURE.

		EXPENDITURE.		£ s. d.	
	Printing, stationery, and advertising	..	..	51	10 0
	Postage, telegrams, and sundry expenses	..	..	37	16 8
	Secretary's travelling expenses to arrange shows	..	..	6	12 6
	Expenses Drill Hall Show	..	..	1	5 0
	„ C. Palace Show	..	..	9	8 0
	„ Chester Show	..	..	7	13 6
	Medals	..	..	11	13 8
	„ for affiliated societies	..	..	71	12 0
	Repairing epergne	..	..	1	0 0
	Prizes Drill Hall Show	..	..	37	5 0
	„ C. Palace Show	..	..	267	0 0
	„ Chester Show	..	..	164	15 0
	Assistant Secretary and Accountant	..	..	20	0 0
	Balance at bankers	..	..	31	16 7
				£719	7 11

T. B. HAYWOOD, Treasurer.

ARRANGEMENTS FOR 1893.

The Committee have made the following arrangements for the coming year:—An early Show of Tea and Noisette Roses will be held in conjunction with the Royal Horticultural Society at their Exhibition Hall at Westminster on Tuesday, June 20th, while the Metropolitan Exhibition will take place, as usual, at the Crystal Palace on Saturday, July 1st. Applications have been received from three different affiliated societies requesting the Society to hold the Provincial Show next year in their neighbourhood. After due consideration the Committee have decided to accept the application of the Worksop Rose and Horticultural Society. Arrangements have accordingly been made to hold the Provincial or Northern Show in connection with that Society at Worksop on Thursday, July 13th.

MEMBERS' PRIVILEGES.

Subscribers of £1 will, as in previous years, be entitled to two private view tickets for the Society's Exhibitions at the Crystal Palace and at Worksop, and to four transferable tickets, admitting at the same time as the general public; while subscribers of 10s. are entitled to one private view and to two transferable tickets. Every member will also receive one ticket of admission to the early Exhibition of Tea Roses at Westminster. They will also be entitled to a copy of the Society's new descriptive catalogue of exhibition and garden Roses as soon as issued. Members joining the Society for the first time next year will also receive a copy of this new catalogue. Members alone are allowed to compete at the Society's Exhibitions.

The Committee desire, in conclusion, to convey their best thanks to the local Secretaries, upon whose exertions the welfare of a Society like this so much depends; and especially to Mr. C. J. Grahame, local Secretary for Croydon, who has again secured for the Society a large number of new members. To the donors of special prizes their thanks are also due, for donations of this kind are always extremely welcome, as they not only relieve the funds of the Society, but also often add very considerably to the interest of the exhibitions themselves. The Committee

have also to acknowledge the kindness and liberality of the Right Hon. Lord Penzance, who has not only presented the Society with a donation of £15 (a portion of which will be expended next year on a cup for garden Roses), but who has also promised to offer a 5-guinea cup for the same class of Roses in future years.

PROPOSITIONS AND ALTERATIONS OF BY-LAWS.

Following the reading of the report and financial statement, which were unanimously adopted, Mr. T. B. Haywood remarked that he wished to resign his position as Treasurer of the Society. This regrettable step he took for various reasons, amongst others being the difficulty of getting members to pay their subscriptions. The announcement, however, was received with so much regret by the meeting that ultimately Mr. Haywood promised to remain as Treasurer for one more year.

The Rev. J. H. Pemberton then proposed that the following words be added to Regulation 1:—"That the metropolitan Show shall be held on the Saturday nearest to the 6th of July." In putting forward this motion Mr. Pemberton said that he appealed, in the interest of northern growers, to the National Rose Society to consider the advisability of altering the date of their metropolitan Show. This must not be regarded as a northern show, but the representative show of the N.R.S., and it ought not to be held too early or too late. They ought to strike the happy medium. The Show this year was a grand Exhibition, but it was not a representative one. Many growers, a week before it took place, were afraid they would have no Roses. Many of the early districts—such as Croydon, Bath, Bagshot, and others—held their Shows after the National, which, to his mind, proved that the latter took place too soon. There were thirty-six affiliated societies, and only nine of these held their shows preceding that at the Crystal Palace. He had received letters from many well-known northern growers who were anxious that a later date should be decided upon. It was the opinion of many growers this year that their Roses were much better at a later date than the Show. Mr. Bateman supported the movement, and said that they had been losing sight of the fact that they were a National Rose Society. The past experience proved indisputably that for the "warm corners" the date of the Crystal Palace Show is suitable, but not for general districts. Mr. Grahame, on the other hand, said that the Crystal Palace Show of this year was one of the largest on record. There were sixteen counties represented at the Exhibition. It could hardly be said, therefore, that the date was too early. Rev. H. H. D'Ombraïn pointed out that the Amateurs' Challenge Trophy had been won twice each by northern and southern growers, and the same applied to the nurserymen. He thought it would be a pity to disturb a system that had worked so well. Mr. Mawley remarked that he had gone carefully into the matter, and as a National Show he thought as near to July 6th as possible would be a good date. The proposition, on being put to the meeting, however, was lost, the votes being 19 for and 26 against.

The Rev. J. H. Pemberton also made the following proposition:—"That the affairs of the Society be managed by one Committee, consisting of forty members (exclusive of the officers), to be annually elected by ballot at the general meeting of the Society, and that the by-laws and regulations be altered as suggested on the circular calling this meeting." This motion was seconded by Mr. Bunyard, and carried by a large majority.

The Rev. Foster Melliar proposed, "That at the general meeting all members be allowed to vote by proxy on matters of which due notice has been given." In moving this Mr. Foster Melliar pointed out the inconvenience to which it put country members, when attending the meetings for the purpose of voting. Mr. Grahame said he had long been in favour of members of the Society being allowed to vote by proxy. He thought country members should have a voice in the matter. The Rev. H. H. D'Ombraïn, however, was not in favour of a change. Other societies, that which their Chairman was connected with for instance, had important matters to carry out, but they did not think voting by proxy necessary. The proposition was, on being put to the meeting, lost by ten votes.

The Rev. F. Burnside, in regard to the selection of the medal blooms, made the following proposition:—"That in order to assist the Judges in the selection of the medal blooms, it be an instruction to the Judges of all the other classes to mark in some way, to be decided by the Committee, all blooms in the stands in their classes which in their opinion ought to be brought to the notice of the Judges for the medal blooms." The Rev. Foster-Melliar seconded this motion, which was carried by a majority of twenty.

The result of the ballot as to the election of the Committee was then announced. It was moved and carried, and Mr. Cranston's name be substituted for that of Mr. W. H. Fowler, whose official duties as Mayor of Taunton would prevent him attending the meetings.

A vote of thanks to the Chairman concluded the proceedings.

GRAPES AND TOMATOES AT HILL GROVE, KIDDERMINSTER.

DURING the past two or three years it has been my good fortune to inspect the Grapes growing at Hill Grove, Kidderminster, the residence of W. Hatton, Esq. The garden is not a large one, but Mr. Poole, the gardener, acts up to the principle of whatever is worth growing is worth growing well, be it flowers or fruit. He is also an old reader of the *Journal of Horticulture*, and anything pertaining to Vine culture

he takes the keenest interest in, and very pleasant chats have I had with him on this his favourite fruit.

A variety that he takes especial interest in is Mrs. Pince's Black Muscat, and he is of the opinion that when well grown and looked after that it is the best late black Grape in cultivation. The bunches are heavy and well shouldered, tapering well down to the point, and coloured splendidly. Another variety that he has been most successful with is Gros Maroc. It must not be inferred that I mean size of bunch, colour, and size of berry, as this is as good as the best of other people's, but in flavour. This, as is well known, is the shoal in many gardens in which it has been wrecked, but not so at Hill Grove. There it is grafted on the Madresfield Court. At the time when it first fruited there was only room for one rod in the place of two, and it was a question which should be sacrificed, the Madresfield Court or Gros Maroc, but it fell on the former. Mr. Poole says that the flavour is vastly improved by the union. Now many good gardeners are of the opinion that the stock does not influence the scion of any class of fruit as to alter the flavour for better or worse; but in this instance if the Madresfield Court has not influenced the scion for the better in flavour, what is it? If the majority of gardeners were asked what should be sacrificed in the above instance I am sure they would have answered off-hand, Gros Maroc. The experiment is well worth trying in other gardens. Gros Colman, Lady Downe's, and Black Hamburg are equally well grown.

I also noticed some good crops of Tomatoes produced on plants for supplying ripe fruits throughout the winter. The variety was a cross between the old Orangefield and Hathaway's Excelsior. It had the productiveness of the former with the size of the latter, it also being intermediate in character. The fruits were certainly not so smooth or round as one might wish, according to the present standard of an ideal Tomato, but they were weighty, and a good colour.—A. YOUNG.



HARDY FRUIT GARDEN.

Assistance for Fruit Trees.—The application of food, in the shape of natural or artificial manure, is necessary at times to the roots of most trees, in order to sustain them in a continuously fertile state. The present time of the year affords, perhaps, the best opportunity for supplying fertilising matter, as it also is for enabling the food thus supplied to have its virtues gradually washed into the ground, where they can combine with the soil constituents, ready to be available for the roots in spring. Active extension of root fibres then commences, and rich food in suitable quantity being ready to hand they multiply rapidly, to the benefit of the trees and crops.

When Trees Require Assistance.—Help is not absolutely needed every year by all trees. Judgment must be exercised in ascertaining their condition—not only at the present time, but for some months previous. Trees which have borne during the current season heavy crops of fruit will most likely be in the greatest need of manurial assistance. Applied now, it will help them considerably in strengthening their fruit buds, which may be weakly, owing to having had to compete for support with a large crop of fruit. Too heavily cropped trees often fail to fruit the next season, because their resources have been taxed to the uttermost in perfecting the crop. Such trees should not be too heavily manured, or they will be likely to run too much to wood, not having that balancing or restricting power which a reasonable crop of fruit gives. Old-established trees sometimes become barren, from the simple fact that the roots have long since exhausted the food supplies within their reach, and if the roots do not descend into the subsoil in search of that support they cannot find near the surface they will remain in a stationary condition, producing neither healthy wood growth nor sufficiently strong fruit buds to give good crops. Trees in the latter condition will be benefited by a dressing of manure, in either solid or liquid form. A sprinkling of bone dust and occasional doses of soot are also beneficial, especially on strong soils.

Advantages of Manuring.—The chief aim of the cultivator in enriching the soil with proper substances which experience has found to be best adapted for fruit is to maintain the trees in health, vigour, and fertility. Annual or biennial top-dressings encourage the production of roots near the surface, where they can more easily be fed and partake of the natural advantages of air and warmth. To obtain command of the roots, liberally feeding them with food and moisture as they require it, ensures, other conditions of culture being carried out well, regular and even crops of good fruit.

Best Kind of Manure.—As a general rule the best manure for the majority of fruit trees and bushes is that from the farmyard. It contains, if good, a large proportion of the necessary elements which fruit trees need, and will always be largely used. If possible, it should be neither quite fresh nor thoroughly decayed, but in that state in which its component parts are decomposed enough to be of use in supplying plant food, but not so decayed that the chief nutritive elements have escaped, leaving behind a heavy, soapy mass. In the latter case it is of little use. Fresh manure, on the other hand, is more beneficial, as it

contains much that has not had time to escape; therefore, when applied to the soil a proportion of its available constituents are secured.

Liquid Manure.—Where sewage tanks and cesspools exist their contents may be emptied on the ground in the fruit quarters, old-established orchard trees, large wall trees, and others of more than ordinary dimensions and age being the most benefited. Good results follow its application to smaller trees, but it must not be given to them so freely as to larger and older specimens. The roots of the former, being nearer the surface, may be equally well fed by mulching with good manure, reserving the liquid for larger trees which have impoverished the soil.

Applying Manure.—The conveyance of solid manure to handy positions in the fruit quarters is best done in frosty weather. Much of it may be laid in small heaps ready for spreading when dry mild weather prevails, or a slight frost just hardens the ground. Spread the manure 4 inches thick over the roots as far as the branches extend outwards. Wall trees may have it spread over the border 4 to 6 feet wide according to the height of the trees. Cordon trees on walls, espaliers, and borders will have root extension confined within narrower limits, which it is desirable to encourage, therefore confine the mulching to 3 feet wide. Bush fruits may, as a rule, have a heavy mulching, covering the ground between the rows as well as over the roots with manure, this being applicable to Gooseberries, Currants, Raspberries, and Strawberries in quarters, lines, clumps, and beds. When not planted too closely together there is usually some amount of space between Gooseberry and Currant bushes not occupied with roots. This affords an opportunity for burying the surface soil immediately under the trees, which often contains pupæ of caterpillars, from which again winged insects emerge next season. Therefore, where attacks of caterpillars have been prevalent remove the soil referred to, burying it deeply, accompanied with a dressing of lime. The space over the roots, many of which will be exposed by the process, fill up with manure, or loam and manure. Avoid spade digging between Raspberries and Strawberries, which are generally so well furnished with fibrous roots that any disturbance of the soil results in injury or destruction. The annual surface dressings of manure contribute the best to their maintenance and support with the most prolific results.

Applying Compost.—Unless the soil near the surface is well occupied with roots, it is advisable with wall trees to remove some of the inert and impoverished surface material down to the roots, replacing it with some fresh, sweet mixture consisting mainly of loamy and turfy soil intermixed with burnt refuse, soot, pulverised lime rubbish, a little half-decayed manure. If the soil be of a heavy nature some gritty material from the roadsides will also tend to lighten it. This compost coming directly in contact with the roots will soon accelerate the production and ramification of fresh fibres. The trees relish encouragement of this kind, and soon show it in the improved condition of growth and the perfection of better flavoured fruit.

FRUIT FORCING.

Vines.—*Earliest House.*—When the eyes break, the temperature will need to be increased to 60° at night in mild weather, and 55° when severe, gradually increasing it so as to have it 60° at night when the Vines are in leaf, and from 65° to 75° by day, with moderate ventilation. Sprinkle the floors and surfaces of borders twice or three times a day in clear weather, avoiding a too damp or too dry an atmosphere. To Vines in pots liquid manure should be given at the temperature of the house. Disbudding must not be practised until the bunches show in the points of the shoots.

House to Afford Fruit in May.—The house for this purpose should be started without delay. A bed of leaves and stable litter placed on the floor of the house, turning a portion of it daily, so as to supply ammonia to the atmosphere, is saving of fuel, and conduces to a good break. Outside borders must have the needful protection from cold rains and snow; a few inches thickness of dry leaves and a little litter over them answer when the Vines are planted inside, but where the border is all outside a covering of warm litter is preferable, two-thirds of leaves to one of stable litter affording a less violent but more lasting heat than manure alone, adding fresh material as necessary. The inside borders may be rendered thoroughly moist by applying water, or in the case of weakly Vines liquid manure, at 80°. Start with a night temperature of 50° in severe weather, 55° in mild weather, and 65° by day, except the weather be cold, when 55° will be more suitable. This slow work is better than a high forcing heat, which induces a weak growth; and we do not advise those temperatures to be exceeded until the growth commences. Depress young canes to the horizontal line or below to insure the regular bearing of the buds. Maintain a moist atmosphere by syringing occasionally, but avoid excessive moisture, and keeping the rods dripping wet, which excites the production of aerial roots from the rods.

Midseason Houses.—The Vines should be pruned and at rest; if not complete the work, and cleanse the houses without delay. Where the Grapes are partially cut the remainder may be removed with a good portion of wood attached, and if the stems are inserted in bottles of water the bunches will keep admirably in a dry room from which frost is excluded. Thus the Vines will be liberated for pruning and the house for cleansing, repairs, and painting. A long and complete rest invigorates Vines, and early pruning effects that better than anything else.

Late Houses.—Vines that have the foliage all off will only require sufficient fire heat to exclude frost, but Muscats require a temperature of 50°. Black Hamburgs, however, shrivel in that heat, 40° to 50° being sufficient for them and thick-skinned Grapes.

Pines.—*Young Stock.*—Keeping these plants too close and warm causes them to become drawn and weakly. At night 60° should not be exceeded, but a mean between that and 55° secured at night, which, with 65° in the daytime, will keep young stock gently moving, admitting a little air at the top of the house at 65°, leaving it on all day, but do not let the temperature fall below that point, and when the sun raises the temperature to 75° a free circulation of air should be allowed. The bottom heat must be kept steady at 80°. Avoid a very damp atmosphere, moderate humidity will suffice. Apply water only when the plants become dry, and then give weak liquid manure in a tepid state. Allow the plants plenty of room, and keep them as near the glass as is safe.

Plants for Affording Fruit in May and June.—Where a supply of ripe fruit is required in May and June, and plants are not showing fruit, it will be desirable to select from those started last March, which have completed a stout growth and are now in a state of rest, such as show the best indications of starting into fruit when subjected to a higher temperature both at the roots and in the atmosphere. If the plants cannot have a structure to themselves they should have a light position in the house where the fruiterers are swelling. In the fruiting department 65° will be ample at night, 5° lower in the morning in cold weather, and 70° to 75° by day.

Strawberries in Pots.—When the crowns commence swelling and the trusses appear the temperature may be advanced a few degrees by day, but 50° to 55° is sufficiently high at night. Syringe the plants lightly in the early part of fine afternoons. Examine them daily and supply water to all that require it. Keep a sharp look out for aphides, and if any appear fumigate the house on two consecutive evenings. It is very important that the plants be perfectly clean, and fumigation must not be practised when they are in flower. Another batch of plants should be placed in a house from which frost is excluded, removing the decayed leaves, and the surface soil should be loosened and a top-dressing supplied, a little bonemeal being excellent. Attend to the drainage; if defective rectify it, and wash the pots. The plants may be introduced during the next three weeks to a Peach house or Strawberry house. John Ruskin, La Grosse Sucrée, Vicomtesse Hericart de Thury, and Noble are suitable varieties. Plants for starting later will be quite safe in their quarters outdoors plunged in ashes to the rim of the pots, and a light covering of dry fern or litter may be given in severe weather, removing it when the weather is mild. If the plants are placed in frames the lights should be drawn off in mild weather, but in mild wet weather the lights should be tilted. The plants cannot be kept too cool, and none should be allowed to suffer through want of water.

Cherry House.—Houses that are to be employed for supplying ripe Cherries from the middle of April and onwards must now be closed. Be sparing of fire heat at the commencement, not employing it unless absolutely necessary to maintain the temperature at from 35° to 40° at night, and 40° to 45° by day, ventilating when the temperature is about 50° to 55°. Close the house when the temperature is at 50°. Syringe the trees and available surfaces early on fine afternoons, so as to admit of the buds becoming dry before nightfall. The border will be sufficiently moist for some time through the removal of the roof lights, if not it must have water to bring it into a thoroughly moist state. Trees in pots if at all dry will require repeated supplies of water to secure the thorough moistening of the soil to the base of the pots.

THE FLOWER GARDEN.

Summer Bedding Plants.—A mild winter is not always the best as far as keeping tender bedding plants is concerned. Damp is very destructive among Zonal Pelargoniums especially, and these ought, therefore, to be kept rather dry at the roots, and all decaying leaves picked off whenever seen. They keep best in a house where a little fire heat is maintained and the top ventilators open during the daytime. Give shrubby Calceolarias, Violas, Pentstemons, Antirrhinums, and Carnations in frames abundance of air with a view to checking premature growth, and protect well from severe frosts. It is a great mistake to subject any of them to fire heat. Carnations ought to be raised well up to the glass in pits or frames, have all dead leaves picked off, and be fumigated occasionally if green fly is seen on them. Bedding Lobelias also object to much fire heat, and should never be very dry at the roots, otherwise the growths harden and flower early, whereas the young shoots to be propagated should be succulent and fresh. A warm greenhouse suits Heliotropes and Ageratums, and only old plants of the former should be kept somewhat dry at the roots. Such heat-loving plants as Iresines, Coleuses, and Alternantheras winter most surely on shelves in plant stoves and forcing houses, receiving only enough water to keep them fresh in appearance.

Transplanting Bulbs.—Mild, fine weather in November has been most favourable for lifting, dividing, and transplanting established clumps of various bulbs, but it is not yet too late to divide and replant clumps that are either becoming crowded or present a sickly appearance. Clumps of Snowdrops growing wild can now be shifted to the flower garden or borders, taking care to replant as deeply as they were previously buried, the latter remark also applying to transplanted bulbs generally. Daffodils and Narcissi in particular are liable to be badly splashed by heavy rains when in flower, but a mulching of leaf soil, given now, would prevent this and otherwise act beneficially. Mild weather is the best time to lift and replant bulbs, and also for loosening the soil among those not lifted, prior to mulching with leaf mould.

Border Chrysanthemums.—The season has been a good one, both for the summer and autumn flowering varieties. Strong young plants give the best results, and if there are no stock plants in pots of the best

border varieties, some of each ought to be lifted, potted, and stored in cold pits or frames. Cuttings in the least frosted damp off, whereas those from plants that have been protected from severe frosts strike readily in February or March. Summer and early autumn flowering varieties, of which there are plenty to select from, are much the best for open borders and for growing against walls, planting out surplus plants of the majority of Japanese and large flowering forms that succeed well under glass being so much wasted labour and space.

Protecting Roses.—It is scarcely possible to protect standard Roses effectively, but there is no difficulty with dwarfs, and they may need protection badly before midwinter. At present they are in a very sappy state through the long-continued mild weather, and therefore ill prepared for a trying ordeal. Straw litter or bracken placed round the stems to a short distance above where they ought to be pruned next spring will save them, as will ashes or cocoa-nut fibre refuse mounded up well over the lower parts. If Tea Roses are brought in before March it is advisable to defer planting and lay them in separately by their heels in good fine soil, where they can easily be protected from severe frost.

THE BEE-KEEPER.

APIARIAN NOTES.

THE WEATHER.

SINCE the 1st of December the weather in Lanarkshire has been of a wintry nature, deep snow, and a low temperature prevailing. On the 2nd the thermometer registered 9°, but on all other mornings since the frost commenced it was never lower than 19° and never higher than 21°, the day temperature ranging from 25° to 28°, very much like the same month in 1853.

THE APIARY.

At the present time the apiary gives me no concern. All the stocks are well supplied with food to last till April or May, are thoroughly protected from rain or internal damp, and proof against frost many degrees below zero. They will be let alone until the snow disappears. Notwithstanding the low temperature, I have observed bees flying about and returning safely to their hives. The greatest number of dead bees I have observed outside are five, and none whatever upon the floor of the hive. Preparing sections at this time of the year for another season has its advantages, but unless stored in a dry and high temperature and hermetically sealed, the comb foundation is liable to fall away, so that it is perhaps better to postpone the work till further on in the season.

It is to be regretted that foul brood in many places is still rampant amidst all the eloquent boasting of an advanced and enlightened Association. An entire riddance of it may be effected by adopting the "purgatorial" cure, which as yet with intelligent people has never failed. The changeability of appliances.—This is a great means of spreading foul brood when once it has established itself in the apiary through mismanagement. Unless the bee-keeper is perfectly sure no foul brood exists amongst his hives he should be careful not to change any parts or appliances from one to another. I believe feeders are means of spreading foul brood. Everything in or about the hive should be numbered, including feeders, and there should be one to every hive.

BREEDING.

This will begin in many hives having young queens by the end of the month. Old queens will not begin till rather late in the spring, consequently when their hives are in a comfortable state the bees are less likely to fly out than those having young queens; but the latter raise the temperature of their hives more than non-breeding ones, hence are better able to resist an inclement day should they venture out. The moral to be observed is never to make the slightest alteration of site, covering, or width of entrance from the time the hives are finished up in September or October until the spring.

FOUNDATION.

Procure this and all supers and frames fitted with it during winter. A word of caution as to its use. Many bee-keepers fill sections and supers with it, which gives a greater quantity of honey, but of inferior quality. Those who go in for quantity use full sheets, and have to be contented with a lesser price, while those who go in for quality can easily dispose of it, in the face of a glutted market too, and at a higher figure. The latter are those who are really creating a desire for honey amongst the million, which will result in more profit. The former may be causing more sensation, but are shutting the door against future profits.—A. L. K. B.

TRADE CATALOGUE RECEIVED.

James Carter & Co., High Holborn, London.—*Vade Mecum and Seed Catalogue.*



* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Primulas (B. C.).—The white Primulas are very good indeed, the coloured flowers good, but we have seen many better. We suspect the plants have been very well grown.

Photograph (D. Buchanan).—The photograph of Vine leaves and Tomatoes is very good indeed. The exhibit of the brilliant leaves and fruits at Edinburgh must have been both novel and attractive, the special award and certificate being evidence of this. Reporters usually accidentally omit some exhibits at large shows, and they are not infrequently restricted to space, therefore do the best they can under the circumstances.

Vine Leaves Falling (F. J.).—There is nothing wrong in the leaves falling a few days before the footstalks, but it indicates activity at the roots, and the gradual or slow ripening of the foliage. It is most pronounced in Black Hamburgh Vines, and is a good rather than a bad sign. We advise you to admit aid freely, and keep the house as dry as you can so as to assist the foliage in maturing by aiding the evaporation of moisture from that remaining, and it will materially benefit the wood. Vines that carry 1 lb. of Grapes per square foot of roof are not in bad condition.

Cutting Box Edging (F. J.).—It is not desirable to cut Box edging during the winter months, as there is then danger of damage by frosts. Even when the Box is cut during mild weather at this time of year, and frosts occur afterwards, serious injury accrues. If only slightly cut in the edging assumes a very unsightly appearance; if cut hard back the sprays die down considerably and the edging becomes irregular and gappy. We have not found any better time than mild showery weather after the middle of April to clip Box edgings when they need a fair amount of cutting back, or if merely trimming is needed it is best done in June.

The Cobham Apple (H. J. H.).—Your letter addressed to Mr. Kirk, nurseryman, Brompton, Kent, was not likely to find the Mr. Kirke who obtained grafts of Pope's Apple, raised trees for sale, and named the variety Cobham, for he died many years ago, and the South Kensington Museum and other buildings are erected on the site of the old Brompton Nursery referred to. It is impossible that we can do anything so invidious as to recommend particular nurserymen from whom to obtain fruit trees. Those who may have trees of the true Cobham Apple would have no difficulty of disposing of them if they wished to do so by advertising. This variety bears much sooner than does the good but tardy old Blenheim Pippin, and so does the Beauty of Hants. All are good Apples.

Houses for the Early Muscat Grape (Elstree).—We presume by Muscat that you mean the Muscat of Alexandria, which is not an early Grape, and cannot be forced so as to become perfect in colour and finish before the middle of June, and then it has formidable competitors in Madresfield Court, which has a "smack" of Muscat, and other early and fine-looking Grapes. Muscat of Alexandria, if well grown and finished (not otherwise) always commands good prices early in the season, and is profitable. Well kept late Muscat of Alexandria and Canon Hall Muscat bring the highest prices, and are highly profitable, but the difficulty is to keep them in good condition to a late period. Lean-to, or preferably three-quarter span-roofed houses, are the best for early forcing, and they must be efficiently heated.

The Chrysanthemum Leaf-mining Insect (G. O.).—The "maggots that form tunnels in Chrysanthemum leaves" are produced in the same way that the maggots are in the leaves of Celery. The name of the Chrysanthemum enemy is *Tryptera artemisiae*, which punctures the leaves, depositing eggs in them, these hatching into maggots that feed on the parenchyma of the leaves. This, or an allied insect, is exceedingly destructive to the larger-leaved forms of the white Marguerites—such as Chrysanthemum Halleri, the smaller-leaved C. fruticosum being also attacked, but less persistently. We know of a gardener who insures his Celery against the attacks of the fly by syringing the plants once a week in the summer with a weak solution of petroleum, which he says does the plants good, while the Celery fly will have nothing to do with them.

Marechal Niel Rose Under Glass (S. S.).—The cause of the buds pushing "blind" or flowerless shoots, instead of breaking into flowers in April and May, is immaturity of the wood and buds, and it is somewhat late now to effect the transformation of the wood into flower buds. A sudden check would do it most effectually, such as root-pruning; but that is a dangerous expedient to practise on Rose trees that cover large areas, and is only advised in moderation and with great care, for if done excessively, though the plants may give a large crop of flowers, they are generally so exhausted as to make little growth afterwards. We advise the removal of the soft growths to wood becoming somewhat ripe, and giving all the light and air possible, but excluding frost. Withhold water from the roots, but do not allow the soil to become so dry as to cause the soft wood to shrivel.

Vines with Loose Bunches (Amateur).—When the bunches are unsatisfactory pruned on the close or spur system there is necessity for change, and you could not do better than prune to the best bud—the "round and plump" at the third or fourth joint, in preference to those at the base, which are "small and pointed." As to the looseness of the bunches, that depends in a great measure upon the vigour of the Vines and ripeness of the wood. With the wood well ripened compactness of bunch may be relied on from all the eyes or buds, and sometimes gross Vines will give loose bunches from the base buds; but such are rare as compared with bunches from eyes further from the base, which are not only very much larger but correspondingly looser, and usually have more seedless berries. The chief points to bear in mind are to prune to the best buds only where the wood is ripe, not where it is immature; and to pay especial attention to disbudging in the spring to prevent overcrowding of the growths and foliage in the summer.

Pruning Roses when Planting (J. S.).—We should not hesitate to shorten the very long growth, reducing them about half, though we know they are often left uncut till spring, and Roses thus left unpruned, say till April, have grown very well, though we have also known some to fail. The difference may be attributable to the weather. Should the air be very dry over a long period, as it often is in February or March, when easterly winds prevail, the longer the shoots are the greater the evaporating surfaces, and consequently the greater the escape of the juices from the plants, at a time when the roots are inactive, and cannot absorb moisture from the soil to compensate for the loss. When Roses are dug up and planted in October and November they may commence rooting at once, and can then imbibe moisture to meet the demands of evaporation; but when planted now, and onwards, we suspect the roots remain dormant till the spring, and on this account we should shorten the branches as the safest course to adopt in conserving the moisture in the lower part of the stems. If a Rose tree is dug up in October, before the leaves fall, the moisture escapes from them, and the stems shrivel, but if most of the leaves are cut off the evaporating surface is reduced, and the stems remain fresh. But, observe, we should only "half prune" now, shortening more closely in spring after the buds push from near the tops of the shoots, and if they grow an inch or more no harm is done by their removal.

Forming a Bed of Lily of the Valley (S. F.).—Select a piece of good ground in a border, with a west aspect preferably, or an east border will do. Trench the ground, keeping the good soil on the top, and mix a dressing of decayed manure—say 3 inches thickness—with the top foot of the soil. Planting should be performed just before growth commences in spring, and the crowns placed together in their sizes, say three: 1, the largest; 2, the medium; 3, the smallest. If the soil is light, firm it well before planting, similar to an Onion bed, by treading, and have the surface fine and even. In planting a shallow trench should be cut out, the crowns placed upright in it, about 2 inches apart, so that their points are just below the surface, which ought to be smooth and fine. Cut out the next trench 9 inches from the first, and plant it in a similar manner, and so proceed, leaving out every sixth row, so that the plants will be in beds with an alley between them. The large crowns will flower the soonest, the medium the next, and the weakest the last, but all will produce good flowers after one or two years' growth if well treated. Keep the surface free from weeds, water well in dry weather from the commencement of growth until the leaves decay, and mulch with about an inch of partially decayed manure before dry weather sets in, say early in June. You mention clumps. If you desire to lift them for forcing, plant about a dozen crowns in a bunch about 4 inches in diameter, 9 inches asunder, and allow 1 foot between the rows of clumps, leaving out every fifth row, so that they will be in beds, and the alleys render cultural operations more easy. The large crowns in this case will, or ought to, form flowering crowns the first year; the second size should also form good crowns the first year, and be available for lifting in autumn, yet they are better two years old; but the smaller crowns will take two years to become strong enough for lifting, potting, and forcing.

Planting Violets (C. H.).—The most suitable plants are those taken from outdoor-grown stools. The old stools or plants should be taken up after flowering, or at the close of April or early in May. It will be found that there are plants of two descriptions—viz., runners of last year with more or less roots, and suckers that emanate from the stem of the plant, some, if not all, of which have roots of their own. These two kinds are suitable for immediate planting after being detached or separated from the parent. They should have the runner wire and any large old leaves removed in trimming prior to planting, which will increase the length of the stem of the runner and facilitate the operation, and suckers should be treated similarly in respect of the

old leaves; but in each case all the fresh, green, healthy leaves should be carefully preserved, and any straggling or long root stem of the sucker shortened, preserving, however, a good amount of roots to each. Runners are best; the suckers, however, are good, but it is perhaps best to keep each separate—i.e., plant the runners and suckers separately. In any case they must be kept as much out of the sun as possible until planted, it being a good plan to lay them as prepared in wet moss up to the collar. Plant the large-leaved or stronger-growing varieties 1 foot apart every way, whether the plants are put three or seven in a group, in threes or sevens, the circles being respectively 1 foot, 2 feet, and 3 feet across, and the arrangement equi-distant. The dwarf varieties will be accommodated with a distance of 9 inches between the plants. The ground should be made firm by treading when the weather is dry. Choose moist weather if possible for planting, and place the plant so as to leave the centre clear of the soil after it is pressed down about the roots as it should be rather firmly, or as firm as the surrounding ground. Water at once, and through a rose, so as to settle the soil about the roots, which should be repeated each evening until the plants become established, to facilitate which a few branches of evergreens or twigs of deciduous trees in leaf stuck in the ground on the sun side, so as to shade the plants, will be well repaid in the after well-doing of the plants. Keep a sharp look out for slugs late in the evening and early morning, after or before rain. Dust the plants with quicklime late in the evening, which will destroy all it falls upon, and repeat as occasion requires. As a preventive a ring of dry soot may be drawn around each plant.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (F. F.).—1, *Lavendula dentata*; 2, *Pilea muscosa*; 3, *Tradescantia multicolor*; 4, *Francoa ramosa*; 5, *Imantophyllum (Clivia) miniatum*; 6, *Lachenalia*, species not determinable without flowers.

COVENT GARDEN MARKET.—DECEMBER 14TH.

Trade slow, good supplies with no alteration in prices.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, half sieve	1	0	to	3	Lemons, case	15	0	to	35
" Nova Scotia, per ..	12	0	17	0	Oranges, per 100	4	0	9	0
barrel	0	0	100	0	Peaches, per dozen	0	0	0	0
Cobbs, Kent, per 100 lbs.	0	0	100	0	St. Michael Pines, each ..	3	0	6	0
Grapes, per lb.	0	6	2	0					

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beans, Kidney, per lb. ..	0	6	to	0	Mustard and Cress, punnet	0	2	to	0
Beet, Red, dozen	1	0	0	0	Onions, bunch	0	3	0	5
Carrots, bunch	0	4	0	0	Parsley, dozen bunches ..	2	0	3	0
Cauliflowers, dozen	2	0	3	0	Parsnips, dozen	1	0	0	0
Celery, bundle	1	0	1	3	Potatoes, per cwt.	2	0	5	0
Coleworts, dozen bunches	2	0	4	0	Salsafy, bundle	1	0	1	6
Cucumbers, dozen	1	6	3	6	Scorzonera, bundle	1	6	0	0
Endive, dozen	1	3	1	6	Seakale, per basket	3	0	0	0
Herbs, bunch	0	3	0	0	Shallots, per lb.	0	3	0	0
Leeks, bunch	0	2	0	0	Spinach, bushel	3	0	3	6
Lettuce, dozen	0	9	1	0	Tomatoes, per lb.	0	2	0	6
Mushrooms, punnet	0	9	1	0	Turnips, bunch	0	3	0	4

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

Orchid Blooms in variety.									
	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	3	0	to	6	Orchids, per dozen blooms	3	0	to	12
Bouvardias, bunch	0	6	0	9	Pelargoniums, 12 bunches	8	0	12	0
Carnations, 12 blooms ..	1	0	3	0	Pelargoniums, scarlet, doz.				
Chrysanthemums, dozen					bunches	6	0	9	0
blooms	1	6	4	0	Poinsettia, per bloom ..	0	4	0	9
Chrysanthemums, dozen					Primula (double) 12 sprays	0	6	0	9
bunches	6	0	12	0	Pyrethrum doz. bunches ..	3	0	6	0
Eucharis, dozen	3	0	6	0	Roses (French), per doz. ..	1	6	3	0
Gardenias, per dozen ..	2	0	4	0	" boxes, 100.	5	0	8	0
Hyacinth, Roman, 12 sprays	0	9	1	0	" (indoor), dozen	0	9	2	0
Lilac, white, French, per					" Red, per doz. blooms..	1	0	2	0
bunch	4	6	6	0	" Tea, white, dozen ..	1	0	2	0
Lilium longiflorum 12					" Yellow, dozen	2	0	4	0
blooms	9	0	12	0	Tuberose, 12 blooms.. ..	0	4	0	9
Lilium (var.) doz. blooms	3	0	5	0	Violets, Parme, French, per				
Lily of the Valley, 12 sprays	5	0	10	0	bunch	3	0	4	0
Maidenhair Fern, doz. bels.	4	0	6	0	Violets, Czar, French, per				
Marguerites, 12 bunches ..	2	0	4	0	bunch	2	0	2	6
Mignonette, 12 bunches ..	3	0	6	0	Violets, Victoria, French,				
Mimosa, French, per bunch	1	0	1	6	dozen bunches	1	6	2	6

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (golden) dozen	6	0	to	12	Ficus elastica, each	1	6	to	10
Begonia, per dozen	6	0	12	0	Foliage plants, var., each ..	2	0	10	0
Chrysanthemums, per doz.	6	0	9	0	Heliotrope, per dozen ..	6	0	9	0
large plants, each	1	0	3	0	Lycopodiums, per dozen ..	3	0	4	0
Cupressus, large plants, each	2	0	5	0	Marguerite Daisy, dozen ..	6	0	12	0
Dracæna terminalis, dozen	18	0	42	0	Mignonette, per dozen ..	6	0	12	0
viridis, dozen	9	0	24	0	Myrtles, dozen	6	0	9	0
Euonymus, var., dozen ..	6	0	18	0	Palms, in var., each	1	0	15	0
Evergreens, in var., dozen	6	0	24	0	" (specimens)	21	0	63	0
Ferns, in variety, dozen ..	4	0	18	0	Pelargoniums, scarlet, doz.	6	0	9	0
" (small) per hundred	6	0	8	0	Primula, single, doz. pots	4	0	6	0
					Solanums, per dozen	9	0	12	0



THE AGRICULTURAL CONFERENCE.

A GREAT representative meeting of agriculturists has been held in London; protection, fair trade, bi-metallism, burdens on the land, and rent reduction have all been discussed, with a total result that the attention of the country has been thoroughly aroused to the deplorable condition of agriculture. That is the sum of the whole thing so far; any practical result is indeed a doubtful matter. It should never be forgotten that many members of the legislature are themselves great landowners, who have already made considerable reductions of rent, amounting in numerous instances to fully 50 per cent. of their income; it is certain, therefore, that they would gladly welcome a measure for relief; more than this, if they for one moment regarded such a step as possible would not they have taken it in their own interests without waiting to be urged to do so by a public meeting? Nobly have they borne their share of the burden, so quietly and uncomplainingly, that it is probably supposed they will submit to a still further reduction, but as Lord Leicester said recently, when publishing the accounts of the Holkham estates, "landlords will not bear much more squeezing." He, at any rate, can show how landowners do their duty, not only by rent reductions but also by persistent estate improvements, the joint amount expended by himself and his father, the late Lord Leicester, amounting to the enormous sum of £1,095,148.

If the land is unfairly burdened by imperial and local taxation it ought certainly to have relief, as it will if landowners, tenant farmers, and labourers combine to demand it. But will they? It is a matter of notoriety how very many farmers have allowed themselves to be fleeced under Schedule B year after year by numerous tax gatherers, or rather surveyors of taxes, who do their utmost to wrest income tax from all and sundry. This is one weak point; another is the general want of business capacity in the sale of farm produce. How can the rising generation of farmers acquire this capacity or become skilful judges of the value of live stock under the present universal system of market sales by auction? The leading auctioneers' profits amount to hundreds of pounds on a single market day, as anyone may see who goes to their office after the sales are over and payment is going on. The commission charged may be what is termed fair if the test of a general rate is applied to it, but it is nevertheless a tax upon the producer which ought to be avoided.

As an example of the advantage of doing so, a correspondent of the *Standard* says:—"Much has appeared at various times as to agricultural depression, and the low price at which farmers are obliged to sell their stock, both fat and store. All this time there has been no reduction in the prices charged by the butchers, and therefore the consumer in no way benefits by the present low prices. By way of testing what the butcher is at present making, I bought nine fat sheep at one of the auction marts for £11 5s. Each sheep, therefore, cost me 25s. on the average. They were a mixed lot, some pure Cheviot wethers, some half-bred—i.e., by Leicester tup out of Cheviot ewes, and some grey-faced—i.e., by Leicester tup out of black-faced ewes. They were all one-year sheep—i.e., last year's lambs, in capital condition and first-rate quality, and the weights averaged from 46 lbs. to 54 lbs. I sold the hindquarters at 7d. per lb., and the forequarters at 6d., or an average of 6½d. per lb., the purchasers themselves taking away the meat. The lightest weight sheep left me 24s. 11d. for the carcase, 1s. for the head and pluck, and

3s. 3d. for the skin. The heaviest left me 29s. 3d. for the carcase, 1s. for the head and pluck, and 3s. 3d. for the skin. Each sheep also left an average of 6d. for the internal fat. The result is an average profit of 6s. 8½d. per sheep." Now one of the farmer's pet grievances this year has been the low prices of sheep, yet all the while the butcher has made £6 or £8 profit on every score of sheep he has purchased at market auctions. Good for the butcher, but very bad for the simple, easy-going farmer. Why do not farmers combine, and have at least one good butcher's shop, or half a dozen shops for the matter of that, in every market town? The butchers might combine to undersell them, but that is a game at which the farmers would certainly win.

In the sale of Wheat as flour or bread there would be more difficulty, both because so much home-grown Wheat goes into market wet, and that foreign flour is so accessible to the baker. Like the butcher, the baker thrives apace; no fall in the price of Wheat affects the cost of bread. Bakers combine to keep up the price, and consumers are ruled by their caprice. The 4-lb. loaf is now 7d. at Hampstead, 6½d. at Kingston-on-Thames, 4½d. at Shrewsbury, 6d. in Birmingham, and from 3½d to 5½d. in Wolverhampton, the price of Wheat being very much alike at all those places.

WORK ON THE HOME FARM.

Frost, snow, and rain were all in evidence during the past week, which closed with a severe frost generally, very little snow being visible in the southern counties, but snow was still more or less deep in the Midlands. Out on the moors of Derbyshire the snow was so deep and had drifted so much that considerable difficulty was experienced in bringing home to the homestead a lot of young horse stock and store cattle. It was time, for though the animals were in fair condition, exposure and short commons told so severely that the drovers were overtaken by darkness while still a long distance from the home farm, and the hungry cattle had to be driven into an enclosure near a wayside inn. We mention this fact as a reminder of the folly of such exposure. The excuse was a short supply of hay at the home farm.

All possible care should now be given to afford shelter and warmth to all live stock. Ewes due to lamb in January should not be out in a bleak, wind-swept pasture, but should either have the advantage of shelter from tree belts, or be driven at night to the lambing yard, where they are well fed. We have racks out on the pasture which are now kept well filled with pea straw; the ewes have also a pint of oats per head daily, as well as some chaff in the troughs. They are under close supervision now, and the shepherd must be on the alert to prevent fright from stray dogs or foxhounds, to assist any cast sheep—i.e., ewes which have rolled over upon their back and are unable to get up. If left in that position they are soon dead, but losses are rare from this cause under good management.

Dairy cows are now having a full supply of the best meadow hay, with crushed Oats, meal, and Carrots. Neither store cattle or sheep have any hay, chaffed Oat and Barley straw, with silage and some roots being used for the cattle freely. Valuable as some arable land always is on a dairy farm, it is especially so during winter, when the corn, root, and fodder crops obtained from it enable us to avoid using hay, except for the cows. It is on farms where there is nothing but hay for winter—no straw, roots, or home-grown corn—that a long hard winter is so trying.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet

DATE.		9 A.M.					IN THE DAY.				Rain.
1892, December.		Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday ..	4	29.606	33.2	31.2	W.	41.2	37.4	31.5	59.5	27.8	—
Monday ..	5	29.731	30.2	29.3	W.	39.3	36.4	28.7	57.9	25.2	0.010
Tuesday ..	6	29.850	32.1	31.4	W.	38.1	38.9	27.9	46.2	24.6	0.110
Wednesday ..	7	30.000	33.6	33.2	N.E.	37.9	40.0	31.3	55.1	27.9	—
Thursday ..	8	30.259	33.1	32.6	N.	37.3	40.9	32.6	48.4	27.9	0.259
Friday ..	9	29.599	35.6	34.4	N.W.	37.1	39.1	32.4	62.9	27.3	—
Saturday ..	10	30.032	31.3	31.0	N.	37.0	44.7	30.0	52.0	25.9	0.147
		29.868	32.8	31.9		38.3	39.6	30.6	54.6	26.7	0.526

REMARKS.

- 4th.—Almost cloudless throughout, with cold wind. [in evening.
 5th.—Unbroken sunshine in morning, occasionally cloudy in afternoon; a little snow
 6th.—Occasional sprinkles of snow early, and a heavy fall in large flakes from 11.10 to 11.30 A.M., bright sun between and in afternoon; a little rain, or very wet snow, at 9 P.M.
 7th.—Fine and generally sunny.
 8th.—Sun shining through thin cirrus cloud nearly all day.
 9th.—Rain from 2 A.M. to 7 A.M.; bright, sunny day, with occasional cloud.
 10th.—Almost cloudless morning; generally sunny in afternoon; snow shower at 8.15 P.M.
 A generally fine week, and much colder, though no frosts which could be called intense.—G. J. SYMONS.



AS a centre for the disposal of garden produce Covent Garden is unquestionably one of the finest markets in the world. Apart from its historical connection, which is of no mean interest, there is a certain charm about the place if only regarded as a great *dépôt* for fruit, flowers, vegetables, and evergreens. To the ordinary sightseer there may appear to be a sameness about the market at all periods of the year, but to a keen observer matters are entirely different. As the seasons change, so does the produce in Covent Garden Market. There is always something fresh to be seen; there is ever a lesson to be learnt. Day after day, week by week, and year by year there is, it is true, the same busy scene, and at no time is the market more attractive, or its *habitués* more active, than during the week preceding Christmas. The demands for fruit, flowers, and other produce naturally increase considerably just prior to the festive season, and to meet the requirements of the millions of consumers in the metropolis the producers must necessarily increase their consignments accordingly. This year is no exception to the rule, and a visit to the market early on Tuesday morning, long before the sun had risen, proved both interesting and instructive.

At an early hour the flower market first commands attention, for at no other time can this be seen. Scarcely have the numerous residents of the metropolis gone to rest when the flower market men commence to be busy. This goes on two or three mornings a week, and from as early as three o'clock till seven the scene is of the liveliest nature. Men and youths, women and girls, are making, or trying to make, bargains, and thousands of pot plants and innumerable boxes of cut blooms change hands in a very short time. By eight o'clock the most important of the business is over, and the majority of buyers have departed from this great floral emporium, which at 9 A.M. is closed for the day. It is impossible for those who have never seen it to form an adequate idea as to its magnitude. It is one of the best and most interesting sights of London, and yet, apart from those whose business it is to be there, comparatively few people have ever seen it. Imagine a vast hall filled to overflowing with banks of flowering and foliage plants all in the pink of condition, and myriads of cut blooms arranged so as to be seen to the best advantage, and even then one can only form a poor idea as to the splendour of this floral scene. Palms, neat in habit and of fresh appearance, are sold in thousands, and the same may be said of *Dracenas*, *Ficus elastica*, Ferns in variety, and other foliaged plants. Of flowering plants there are Primulas, Arums, Ericas, Lily of the Valley, Cyclamens, White Marguerites, Hyacinths, and Tulips, the majority of the latter being in shallow boxes. Poinsettias, too, are well represented, and show up splendidly amongst the light coloured flowers. And what plants they are! Not the long straggling leafless specimens that are too frequently seen in private gardens, but dwarf and sturdy, seldom exceeding 18 inches in height, and carrying brilliant heads at least a foot in diameter. The red-berried *Solanum capsicastrum* is a great favourite in the market just now, and may be seen in immense numbers and splendid condition.

Cut flowers are also represented in bulk. Although late, Chrysanthemums were fairly numerous, the white and yellow and bronze coloured varieties being the most plentiful. These, of course, are from home growers, but not so the neat boxes of Tea Roses and

Narcissi, that are so conspicuous in the flower market. These, or the bulk of them, come from sunnier climes than ours, and find a ready sale here. They are carefully packed, and in most cases are as fresh as if just cut from the plants. Other cut flowers are Eucharis, Gardenias, Camellias, Violets, Bouvardias, Christmas Roses, Lily of the Valley, Carnations, and a few Orchids. This concerns the flower market proper, which, as already said, closes at 9 A.M., but the florists' shops in the central avenue are open and attractive all through the day.

Turning to the fruit department the visitor finds a similarly busy scene. What a babble of tongues! How bewildering to those who look on for the first time! Thousands of barrels of Apples and boxes of Oranges are sold by auctioneers, all shouting against each other as if their very life depended upon it, so keen is the competition. To those unacquainted with market phraseology the words and expressions are unintelligible. But not so to the regular buyer. Watch for a moment and see how rapidly the bidding goes on; and quite as quickly the barrels and boxes pass out of sight to give place to more. It is a significant and regrettable fact, however, that English Apples are most conspicuous by their absence. The bulk of the Apples now in the market are Baldwins, Newtown Pippins, and other American varieties, the best of these selling freely at from 12s. to 15s. per barrel. Pears did not appear to be so plentiful, a few hundred boxes from France and some from California being all that were noticeable. Pine Apples, on the other hand, were numerous and cheap. These come to hand from Madeira, and are sold for 3s. to 6s. each. English Pines are apparently very scarce, and good samples of these would doubtless realise remunerative prices. Bananas were not so well represented as they are sometimes, though probably the supply is equal to the demand. The same may be said of English Grapes, well-grown samples of Gros Colman and Muscat of Alexandria being principally seen in the leading fruiterers' shops. The Almerian and other foreign Grapes, however, which come to hand packed in baskets of cork dust, are numerous, and are sold at cheap rates. Nuts of various kinds are to be seen in plenty, with the exception of Kentish Cobs. Good samples of these are scarce, and they sell freely at 1s. and upwards per pound.

What has been said in regard to the flowers and fruit applies with equal force to vegetables. Here, perhaps, the apparent confusion is trebled. This department is not, as the uninitiated may suppose, confined to the market proper, but extends to the whole of the adjoining streets. These are almost impassable during the early morning hours, so numerous are the heavily laden vans of produce. The trade is carried on briskly, and the competition is keen among the sellers; for soon after daylight at this time of the year all must be cleared away to make room for the ordinary traffic. Time and space will not permit the enumeration of the different kinds of favourite vegetables, but it may be said that in this case, as in fruit and flowers, the best produce realises the highest prices.

Perhaps, however, the most striking features in Covent Garden Market during the week preceding Christmas are the huge masses of evergreens and the thousands of crates of Mistletoe. The trade done in these is enormous. Although far removed from the spots where such grow naturally, Londoners will not pass a Christmas without the customary and time-honoured decorations. Piled vans of evergreens of all descriptions are brought into the market, and most of the produce is eagerly sought after. The Holly appears to be exceptionally well berried this season, and is selling freely. The bulk of the Mistletoe comes from Normandy and the other fruit-growing districts of France, and this, like the Holly, is literally covered with berries. If, however, there is any truth in the report as recently published in a daily contemporary, that an edict prohibiting the culture of the Mistletoe has been issued by the French Government, it is very probable that we shall have to obtain our

supplies elsewhere are long. The juveniles are not forgotten, for Christmas Trees are, as usual, sent by the thousands. Many of these are the tops of Abies, whilst not a few are grand young specimens torn apparently from the soil regardless of the roots. Such matters are of a trivial nature to the market man so long as he can realise good returns, and unconsciously perhaps assist his purchasers to spend a merry Christmas.—C. C.

[We desire to give expression to our wish that all who engage in producing and all who encourage the production of the riches of the earth, with those who share in them, will enjoy to the fullest extent possible a truly happy Christmastide.]

PRICES AND QUALITY OF APPLES.

It has been my privilege more than once to stand by, an interested observer, when two giants of the chess arena have been locked in an absorbing struggle. As the pieces have been shifted on the board, attacking, defending, advancing, receding, I have seen how one master, his whole nervous system focussed as it were on an intricate interchange of positions, has overlooked some point, trifling in itself, but eventually developing into the key with which the whole structure that he has erected with such infinite pains and skill has been opened and exposed by his opponent. Pitted against the defeated champion my chance would be small, but when in a position to calmly survey both sides I am able to perceive the error which he has overlooked. No fruit grower, I imagine, would be more likely to appreciate the compliment of a comparison with the Gunsbergs, the Blackburnes, or the Laskers of the chess world than one who submits that his fruit is acknowledged to be "the finest and best packed" that ever goes into the markets; I therefore leave Mr. Walter Kruse to turn over this morsel and digest its moral, passing on to the salient points of his letter on page 530.

In entering seriously upon this discussion—and the subject is of such far-reaching importance as to merit being thoroughly thrashed out—let us clear the ground and define the end in view. I deem it wise to suggest this course as an important preliminary step in order to guard against that introduction of side issues which inevitably occurs when a disputant finds he has placed himself in a false position. Fortunately Mr. Kruse supplies a definite groundwork in one sentence of his second communication. He says, "My object in writing in the first place was simply in order that readers of your Journal should not be misled by seeing 6s. a bushel stated as the price of Apples when the average price of Apples home to the grower has been very much less." I thought that he wished originally to limit his remarks to the one variety mentioned, but as in the quotation above he refers, not to Domino Apple, but twice to "Apples," it is clear that he desires his remarks to have a general application. I accept *his* amendment; indeed, if the general question of Apple-growing for profit is to be considered it would be absurd to limit its scope to one variety in face of the fact that so many are cultivated.

Unfortunately, however, for Mr. Kruse, when I permit him to shift the ground of the debate on to the broader and admittedly more reasonable ground indicated, the weakness of his attitude only becomes more apparent. Of the Apples I have named Domino, growing in an exposed position and unfavourable soil, where few fruits would thrive at all, is the only one to have returned so low a price as 4s. 6d. per bushel, the average price of the others being 6s. Now how are we to get an absolutely just and fair idea of the general return? Admittedly there is but one way, and that is to strike an average. When out of six varieties five yield 6s. a bushel and the other one 4s. 6d. the average return for the fruit is exactly 5s. 9d. per bushel. I attempt no quibbles and try no sophistry in this matter. Mr. Kruse himself widens the discussion, and I show him by plain facts and plain figures that although the error (an error so frankly admitted as to show that no desire but to get at the true facts is entertained) at first sight appears serious, yet on being subjected to the only just test that can be supplied it is proved to be absolutely trivial. Here is the case plainly stated, and the result set forth. The average price is not 4s. 6d., not 6s. per bushel, but 5s. 9d., and after accepting Mr. Kruse's own estimated deduction of 1s. 3d. for carriage, &c., what do we get? An actual return to the grower of 4s. 6d. per bushel, a very close approach to the 4s. 9d., which, in the case of his fruit ("the finest and best packed" that ever goes into the market) he admits to be "very exceptional."

I have put this matter with the utmost fairness, accepting Mr. Kruse's own estimates and quotations without question. I leave him to make the best he can of the position, and, taking more of

his own figures, I pass on to ask him a few pertinent questions. Your correspondent's object in writing in the first place was to prevent the public being misled. He is consumed by a desire for the truth, the whole truth, and nothing but the truth about the profits of fruit growing in England. This is a most laudable desire, and I share it to the full; hence the questions I am about to put. Mr. Kruse claims that his wages bill for men averages £500 a year, and for women £30 a week in the season—let us say another £500 for the year. There is a third £500 a year for manure (truly this is not stinted since £500 a year is spent on forty acres of land!), making £1500 a year without taking into consideration the outlay for baskets or other matters, which must be considerable. What I want to ask is this: Whence comes this £1500 to £2000 a year simple expenditure? The days of the goose which laid golden eggs are over. Has Mr. Kruse some great store from which he draws the means to run his farm, keeping it going as a philanthropic institution for the benefit of the industrious poor? And if not, if what he puts into the laud is yielded up again with interest by the fruit that is sold, what is, what *can* be, his motive in circulating warnings the effect of which may deter others from entering on the field wherein his livelihood is earned?

In my former communication I quoted the experience of two growers, one of whom declared his inability to afford good cultivation for Apples, because they only brought 2s. 6d. a bushel; while the other, by finding that he could afford it, secured 6s. (really 3d. less). Grower No. 1 blundered over cause and effect, and he pays the penalty accordingly; but it is melancholy to find one who advances claims to be considered an enlightened fruit grower expressing pleasure that he has support from such a cultivator, and ignoring the true lesson of the parallel cases. It would be absurd to suppose so intelligent a man as Mr. Kruse is, incapable of comprehending the point (which Mr. Pearson has so strikingly emphasised); I ask him therefore, Does he really throw in his lot with the 2s. 6d. a bushel man who does not cultivate, in preference to taking sides with the 5s. 9d. a bushel man, whose farm is the perfection of good management? Even if he does make this choice, he will find that he is leaning upon a false reed, for his supporter's remedy for low prices is exactly the opposite of his own. He would have planting stopped, on the ground that the supply is already too large, instead of planting more.

While ostensibly acquitting me of complicity in the ill-doing of those who hold out fruit growing as an Eldorado, Mr. Kruse endeavours, in an oblique kind of way, to connect me with them. He has not a shadow of justification for anything of the sort. I lose no opportunity of heaping ridicule upon the armchair fruit growers, whose profits are made with pen and ink by the fireside, and the suggestion that because I believe and state that there is a reasonable profit in fruit growing when carried out in the best manner, I am to be in any way linked with the stick-in-a-tree-and-sit-down-to-wait-for-the-money brigade is as preposterous as it is unjust. As well might I take Mr. Kruse's admission that there is profit in fruit growing to be tantamount to saying that everyone who invests in it will realise 70 to 80 per cent. on his money. Far from exaggerating the returns I have kept many facts back solely because I have feared that inexperienced persons might found unsound expectations upon them. On my table now I have Apples of which a large bulk yielded a home return to the grower of 6s. per bushel, and others forming part of a crop of Cox's Orange Pippin, 1 acre of which has this season yielded the grower a home return of over £100. Even this high figure has been exceeded, but I have never quoted such a return to any inexperienced person without a strong intimation that it is only produced in a favourable season and by the most skilled culture.

The truth of this matter must be apparent, and my position is strengthened by the testimony of such able growers as Mr. Pearson and Mr. Molyneux. There is a fair return for capital invested in fruit growing when well done, a good return when it is conducted with the utmost skill and intelligence. The spectacle of Mr. Kruse blowing hot and cold by turns, speaking of a profit one moment and hinting darkly at loss the next, is not instructive. Although practically he is on our side, yet theoretically he is sitting on the fence, struggling vainly to balance himself and to hold up the shapeless and inert bogey of large accumulations of capital at the same time. He should let it drop, and jump boldly down on the right side. America has lost her Gould, and there is no room for even his ghost here. Quality, not quantity, is the watchword of success.—W. P. W.

WILL your correspondent, "W. P. W.," mention the cost per tree of "a dressing of kainit and superphosphate, spread from the stem outward," and the "light sprinkling of nitrate of soda to follow?"—B. D. K.

The cost per tree must obviously depend on its size, and consequently the extent of ground occupied by its roots. If your

correspondent's trees are young, and make moderate yet not sufficiently strong growth, superphosphate of lime applied at the rate of 3 ozs. per square yard in February would improve them, following early in April with half the quantity of nitrate of soda. If the soil be light 2 ozs. of superphosphate and 1 oz. of kainit might be better *plus* the nitrate of soda. Strong soils often contain enough potash. He will now be able to calculate the quantity required, and the cost per tree can easily be ascertained as founded on the cost of the fertilisers. Old or nearly exhausted trees may have a double dressing, but strong liquid manure applied copiously any time when it will pass into the soil in winter is the quickest restorative of such trees.—W.

STEALING OF FRUIT AT THE EDINBURGH SHOWS.

DURING the autumn of last year you kindly gave myself and others permission to ventilate the above disagreeable subject in the columns of the *Journal of Horticulture*. So conclusively were the allegations proved to be correct that not one of the Royal Caledonian Horticultural Society's many champions ventured to offer a single word in defence of the Council's management of their shows. After this exposure exhibitors naturally expected that something would be done to keep the light-fingered gentry in check. The Executive, however, take a different view, and pass a new by-law, which reads as follows:—"The Council reserves right to refuse any entry without giving any reason therefor." I have it on good authority that this by-law was made with the object of enabling the Council to debar from future shows those who had the courage to publicly complain of the Society's mismanagement. With regard to myself, this arbitrary by-law was practically put in force last autumn. I sent in my entries as usual for the September Show, and had them returned marked "Entry refused by instructions of Council in terms of By-law No. 6.—CHARLES STEWART, Hon. Sec."

I subsequently sent the following letters:—

September 5th, 1892.

To the Council of the Royal Caledonian Horticultural Society.

Chas. Stewart, Esq., Hon. Secretary.

Sir,—I am in receipt of the entry forms returned by you. It was upon the strongly urged advice of a member of the R.C.H.S.'s Council that I was prevailed upon to forward them. It is a matter of indifference to me whether I exhibit at your shows or not, but so long as I continue to exhibit I will always denounce any pilfering of my employer's property, and, as far as I know, this is the only reason that can be assigned by your Society for the rejection of my entries.—Yours truly, J. MCINDOE.

[NO REPLY.]

September 9th, 1892.

To the Council of the Royal Caledonian Horticultural Society.

Chas. Stewart, Esq., Hon. Secretary.

Sir,—Upon further consideration of the rejection of my entries for the past autumn Show at Edinburgh, I think it would be only an act of courtesy if the Council would let me know the reason my entries were rejected, at the same time I note your By-law No. 6.—Yours truly, J. MCINDOE.

[NO REPLY.]

The question I desire to ask directors of shows, exhibitors, and all who are interested in exhibitions is this:—Are the Council of the Royal Caledonian Horticultural Society carrying out the best interests of horticulture when they year after year permit pilfering of exhibits to an alarming extent without taking proper precautions against it, and when unfortunate victims complain they are excluded from future shows?—JAMES MCINDOE, *The Gardens, Hutton Hall, Guisborough.*

[Our correspondent sends us his entry form properly filled up (eleven classes), with the refusal written across it, as above mentioned. Our readers are at liberty to express their opinions on the whole subject either in justification or the reverse of the action of the authorities.]

EXACUM MACRANTHUM.

THIS *Exacum* has just claim to be placed amongst the most beautiful of stove plants, and it is a regrettable fact that it is so seldom seen. The plant is of comparatively easy culture, neat in habit, and generally grows to about 18 inches in height. When laden with richly coloured flowers, that can compare favourably with any other occupant of the stove, the plants present a most charming sight.

The blooms (fig. 72) are about 2 inches in diameter, the corolla being divided into five broad ovate segments, slightly recurved, terminating

in a rather sharp point. Their colour is of indescribable richness, being a rich indigo purple with a satiny sheen; the flowers, which are borne on a terminal corymb, being the more striking by the deep yellow prominent anthers. The leaves are opposite, those on the upper part of the stem being sometimes 3 inches long and an inch wide, tapering to both ends; the lower leaves are smaller and less pointed. They are bright green and slightly ribbed. It was found in Ceylon at an altitude of 6000 feet, and, though still rare, it is worthy of being largely increased and widely distributed.



FIG. 72.—EXACUM MACRANTHUM.

ON GROWING JAPANESE CHRYSANTHEMUMS FOR EXHIBITION.

[Read at the Horticultural Club by the Worshipful the Mayor of Taunton, W. H. Fowler, Esq.]

I HAVE been asked to contribute a short paper on the above subject, and I do so with considerable diffidence, for two reasons. First, because I have been a grower for a comparatively short period; and secondly, and more particularly, because the subject has been so scientifically and ably dealt with by many other growers of much greater experience than myself. I purpose, therefore, to give only the general outlines of the method we adopt, and make more especial mention of any details which have been tried by me as experiments, and the results obtained.

I think the most convenient point to start from is the treatment of the old stools and the taking of cuttings. As soon as the flowers are cut from an old plant the stem is cut to within 4 inches of the pot and it is placed in a cold frame. I may here say that I strongly believe in making the plants as hardy as possible all through their period of growth. I am quite aware that in some less favoured parts of the country than that in which I reside it will be found necessary to use some heat in the frames in order to exclude severe frosts, but the less it is employed the better. In my case the frames are unheated, and in severe frosts they are covered with

thick straw mats, which I find answer the purpose well. I think it is a mistake not to give the old stools some stimulant, as almost the whole of the nature of the soil must have been exhausted by the time the blooms have been finished. In order to get good strong cuttings I give two doses a week of weak manure water made in the usual manner from cow or sheep droppings. It is also a good plan to give a slight top-dressing of good loam. The further the cuttings can be procured away from the stem the better, and never take any from the stem itself if it can possibly be avoided.

It is a good plan, I think, when the season is in full swing, to take careful notes of all the varieties and make out a list of the sorts you intend to grow for another season and the number of cuttings you will require of each. It will be found necessary to grow more of some varieties than of others which are equally good as to the flowers, as some are very brittle and suffer much from the wind; others will carry three or even four good flowers, and some only one. Some are also much more difficult to bring out to time. Then, again, certain varieties must be discarded every year to make room for new ones of greater excellence. Let us then suppose that we have our list drawn up and the time for taking the first cuttings has begun. It will be found necessary to strike or attempt to strike quite 25 per cent. more cuttings than you will have room for as full grown plants. Some of the cuttings will not strike, later on some plants will be lost through various causes, and it is best when the time for the final potting comes to have extra plants, so that only the strongest and those which promise to come right as to time shall be grown on through the summer.

PROPAGATING AND POTTING.

The season of striking cuttings begins in the second and third weeks of December, and goes on at intervals till the end of February. I strike all my cuttings in a close frame in a warm greenhouse and use no bottom heat. The soil is composed of well rotted top spit with plenty of sand and some charcoal. Last season I adopted the plan suggested by Mr. C. E. Shea of adding a little of the ash produced by burning the old stems and foliage of the last season's plants. This, I think, is of assistance to the plants when they have become rooted and established in their first pots. I do not propose in this paper to give a list of all the varieties we grow and the dates at which their cuttings should be taken. These will be found by referring to the excellent work of Messrs. W. & G. Drover. Of course the time must vary slightly with the district. As a general rule the latest varieties should be struck first and so on, though there is some modification in this when stopping in April is practised. The cuttings are kept fairly close till rooted, after which they are taken out and placed in cold frames and have no heat till they are finally housed. It is most important to give them plenty of room in the frames. If this is not done they will get drawn up, leggy and weak, and will never make good plants.

I think it is a good plan from the first to keep each variety by itself; by doing so the grower will save a great deal of time, as certain varieties require more shifts than others, and as these shifts are given at no fixed dates, but when the plants require them, it can easily be understood that to have to look through, say, 800 or 1000 cuttings for twenty-five of *Avalanche*, would be a lengthy process if all were indiscriminately mixed together. It is important to place the rooted cuttings near the glass on a cool bottom. The plan I adopt is by resting corrugated iron sheets on inverted pots and then putting 4 inches of sifted coal ashes on them. This makes a cool bed, and can be adjusted to any desired height. The frames I use are Boulton & Paul's span-roof ones 8 feet wide. They have an admirable method of top ventilation, which is especially useful for the plants in their early stages, when very often the east wind is too cold to allow of the lights being raised. Frost is excluded by the use of thick straw mats, and no artificial heat is used. The plants are kept well apart from each other, and are given more room as they require it. This is most important. Never let the plants in their young state get root-bound. Some varieties will require four shifts, others only two. No rule can be laid down, but all must be repotted when they require it. Every now and then the different varieties are looked over, and any that require it are repotted. The same compost is used, but with less sand and a little leaf mould is added.

We will suppose that we have now arrived at the month of May. The plants are now strong, and some may be placed outside the frames, placing a stick to any that require it; the rest may remain in the frames, and the lights removed. No definite rule can be laid down for the final potting. We begin about the last week of May, when the first plants require it, and then work steadily through the whole stock as they require it. The operation lasts with us about three weeks. The compost I use is as follows:—Four-fifths prepared fibrous loam, one-fifth leaf mould, to this is added some sand, half-inch bones and charcoal. No manure of any

kind. The loam we use is the best top spit cut 2 inches thick, which is stacked in layers, turf downwards, and covered with corrugated iron to keep out the rain. It is chopped up rough, and all fine parts put on one side. It should be on the dry side rather than wet. For certain weak growers, such as Mrs. *Alpheus Hardy*, I use two-fifths loam, two-fifths peat, and one-fifth leaf mould. Two sizes of pots are used, 8½ and 9½ inches in diameter. Those made extra deep as supplied by Messrs. Sankey are the best I have used. Give plenty of drainage, and some rough soil and half-inch bones over it, and pot very firm. After potting the plants stand in the shade for some days till the roots begin to take hold of the new soil, and the plants have got over the check. No water at the roots will be required for some days, but a sprinkling or syringing twice a day will be all that is necessary. Labels should be new and long, so as to give plenty of room for notes as to time of taking the bud, and other details.

TREATMENT DURING THE SUMMER.

As soon as the plants can stand the sun they are placed in their summer quarters in the open, so as to get the full benefit of sun and air, and carefully tied to two strands of iron wire. The plants during the summer stand over iron troughs filled with water. In these troughs are placed 6-inch lengths of 5-inch drain pipes on which the pot stands. Each plant is thus surrounded by water. This almost entirely prevents earwigs from getting on the plants, and also produces a moist atmosphere on very hot days. The plants grown over water have with me better foliage than those placed on the ground. To further keep the earwigs at bay we tie cotton wool soaked with paraffin round the posts, and renew the wool and oil once a week. The result of this experiment has been that during this season (which has been an unusually bad one for earwigs) we have, out of some 560 plants, only lost three or four; while in an ordinary way I should expect to lose fifty or sixty. I may add that my plants are grown on the grass, which harbours the earwigs and makes them more troublesome than they otherwise would be. The rows run east and west, and the plants are turned round twice during the summer. We give plenty of room between the plants, so as to ensure ripe wood and good foliage. The lines are about 10 feet apart.

The principal work during the summer is that of watering and also of tying the shoots as they grow. Every plant is tapped with the knuckle to find out the amount of water required. Too much is almost as bad as too little. Any neglect of watering may mean the total loss of all your exhibition chances. No cold water from the mains should be used. All water should stand for twelve hours in tubs exposed to sun and air before being used. Rain water is the best. As to feeding, I give no stimulants at all till the last week in August. In this I believe I am almost alone, as most growers begin in July. I believe, however, that if the potting soil is really good that the end of August is quite soon enough. I use five or six different manures, but always in a liquid form, never giving the same fertilizer twice running. I believe that liquid manure from sheep, cow, or horse droppings, prepared by placing in a sack and allowing it to soak in a tub of water for a night, is one of the very best stimulants. Be careful not to use it too strong to start with. Of prepared manures there are many very good. Pure *Ichthemic guano*, *Wood's* and *Standen's* manures being my favourites. Sulphate of ammonia is only used to hurry up a late bloom, and must be very carefully used. Between every watering with stimulants we give two or three days with clear water. This I think keeps the ball clean and the plant healthy. Never use stimulants in strong doses; the result will be burnt roots and a ruined bloom.

One of the most important details with regard to growing for exhibition blooms is the timing of the blooms—*i.e.*, to get the bulk of your varieties out at about the same time. Now, while we have some varieties that are naturally early, and others late, we must find out means of retarding the one and accelerating the other. I cannot go deeply into this subject, as it is too large. I will only say now that we arrive at the desired end by stopping—*i.e.*, taking out the point of the leader—the plants at different times. Thus a plant of Mrs. *Alpheus Hardy* or Mrs. *F. Jameson*, stopped in April, will give good blooms from crown buds about the second week in November, whereas if they had been grown in a natural way they would never have given an exhibition bloom. Taking the buds is a subject that is now so generally understood that I will not enter further into it, beyond saying that if a plant is found to be too early or too late for the shows it is waste of time, so far as exhibiting is concerned, to bother further about it. The room of such plants is more valuable than their company (from an exhibition point of view). Of course with new varieties one must keep all to find out what their habits and what is their natural time. In the case of the older varieties their time is known within a few days, and such varieties when out of time should not be

housed unless there is ample room for the rest of the stock. Then there is the question of crown or terminal buds. This depends entirely upon the variety, and must be learnt by experience or by reference to works, where all the principal varieties are tabulated, and their peculiarities noted.

HOUSING THE PLANTS.

We will now enter upon the important step of housing the plants, which takes place at the end of September. First take care that your houses are perfectly clean, if fresh painted so much the better. I always house a plant on the very first symptoms of showing colour in the bud. I am quite certain that to leave such a plant outside means simply the loss of the flower. I have found by experiment that with good blinds and proper ventilation a house can be kept cooler than the air outside, and a bloom kept in such a house will open later than one kept outside and will not be ruined as in the other case. I house the bulk of my plants during the last days of September, and have all in by October 2nd or 3rd. It is always a relief to me to know that they are safely housed and out of the way of the strong winds and frosts which often do so much harm at that time of year. When all are in, give a good smoking in two successive nights to kill all green fly. After that give plenty of ventilation night and day till the middle of the month of October.

I may say that several small houses, where the temperature can be regulated, are far better than one large house. Some varieties require more heat than others to get the best results, and some will want hurrying on and some retarding. I prefer a three-quarter span house, with front and back ventilation. From 1 foot to 2 feet will be found the best distance for the blooms from the glass. It is important to house the plants when dry. All houses must have blinds, or shading should be used, as no blooms will stand the sun after they show colour. A perfect house to my mind would have an outside and also an inside blind; the latter is most useful in protecting the blooms from drip caused by condensation. Many blooms supposed to have damped in the ordinary way are lost from this cause. Avoid all draughts, but always allow plenty of air, except when very cold or rough outside, when great care must be exercised. After the plants are housed they will require less water, and stimulants must not be given after the bloom is half out.

Then there is the great damping question. Thousands of blooms are lost every year from this cause, and various theories advanced to explain it and advice given for prevention of the evil. I do not myself believe that the use of stimulants is in itself the main cause. I have had plants damp off which have had no stimulants at all. I think the real reason of the disease arises from the fact that we grow only one, two, or three blooms on a plant which is capable of growing perhaps as many hundreds, and that the amount of sap in the plants fails to find sufficient work to do, and causes the evil. Some blooms no doubt are lost from the wood not being properly ripe. I think that careless ventilation is one great cause of blooms damping. Avoid all draughts, and on no account allow the sun to get on the blooms. Some varieties are much worse than others. Those with heavy foliage are much more difficult to get ripe, and proportionately disappointing. I intend next season, as an experiment, to reduce the foliage of some varieties. I have lost eighteen splendid blooms of Col. W. B. Smith out of twenty this season, and the plants were the best among my collection.

On setting up the blooms and taking them to the shows I will only say a few words. I think that the best tubes are those patented by Mr. E. Beckett and bearing his name. I use them in conjunction with the Jameson clip, which enables one to adjust the bloom to any desired height. A great deal can be done by careful arrangement of the colours. I believe in placing the largest blooms in the back row. On one matter I feel strongly, and take this opportunity of expressing it. A habit has crept in among exhibitors of altering the character of many blooms by spreading them out by means of cardboard discs and wire crinolines. The object is to give the stand an appearance of weight which it does not really possess. I think that the time has come when this practice should be put a stop to, and all tubes limited in diameter to a certain specified size (say 2 inches), and no other supports allowed. If this were done we should hear less about the boards not being large enough. At the October Show of the National Chrysanthemum Society I saw two good blooms of E. Molyneux entirely spoilt by an enormous card being placed between the tube and the bloom. Instead of being deep solid blooms they appeared to be quite flat, and altogether out of character. I think that the Judges should persistently go for deep solid flowers, and ignore all such manipulated blooms.

BEST VARIETIES.

Now that new varieties of merit are so constantly appearing I feel that it is almost impossible to give a complete list of the

best varieties of Japanese Chrysanthemums; but I give below a list of those I think are the leading forty-eight at the present time, not in the order of merit:—Mrs. A. Hardy, Vivian Morel, Etoile de Lyon (terminal), Mrs. E. W. Clarke, Puritan, Mrs. C. W. Wheeler, Stanstead White, Violet Rose, R. C. Kingstone, Colonel W. B. Smith, Mrs. E. D. Adams, W. W. Coles, E. Molyneux, W. Tricker, Florence Davis, Coronet, G. C. Schwabe, Gloire du Rocher, Gloriosum, Mrs. Herbert Fowler, W. H. Lincoln, Sarah Owen, Madame J. Laing, Sunflower, Mons. Bernard, Avalanche, Mrs. F. Jameson, Mdle. Marie Hoste, Miss Anna Hartzhorn, Japonaise, Eynsford White, Madame Baco, Lilian B. Bird, Lord Brooke, Beauty of Castlewood, Beauty of Castlehill, Aida, Ruth Cleveland, J. Stanborough Dibbins, Mrs. J. S. Fogg, Beauty of Exmouth, W. K. Woodcock, Lady T. Lawrence, Mr. A. H. Neve, W. Lane, Hamlet, Boule d'Or, and Ralph Brocklebank.

I hope this paper has not been too long, but the subject is so large that I could have written much more, and I assure you that I have found it an unfailing source of interest during the last four years. I would strongly advise any who have the opportunity to try and grow a few plants next year, and note the many differences which are to be found in the habits and likings of this most interesting family.



AN ORCHID CAROL.

IF a "song of joy and exultation" can ever be sung over Orchids surely it is at Christmastide, when the wings of the darkness are spread over the garden and outdoor plants are sunk in slumber. It is true that we do not possess them in their springtide glory, when the delicate tremulous blossoms droop from the knotted growths and hang from blocks and baskets in lavish profusion. But their scarcity adds to rather than detracts from their interest, making us admire and treasure them the more. For centuries they flowered and waned with none but savage eyes to see them in the dense primeval forests. To the wild man the sight of the flowers emerging from the twisted and gnarled stems hid no parable, and so to all intents and purposes they "blushed unseen" until the wandering feet of the white explorer led him to their haunts.

In singing a Christmas carol about Orchids, albeit in prose, one is embarrassed by their many-sidedness. Some flowers we love because they have been long with us, and they are as the dear faces of friends. Others we cherish—sternly utilitarian—because they serve some special purpose of the season. It can hardly be said of Orchids that they claim special recognition under either of these heads, and yet who will see that they do not eclipse all their rivals? We call them aristocrats, and perhaps instinctively feel less familiar with them than with the modest old friends which we take to our hearts at this festive time; but that idea, I must contend, is wrong. They are vested with delicacy and infinite grace, still they have the sweetness and sympathy of the truest beauty. Many admire Orchids, few feel that they can dare to love them; but one may get beyond a bowing acquaintance without a snub, and, thus encouraged, learn to feel affection for them, even as we do for a Violet or a Rose.

Claiming indulgence from the revising official in possession of the editorial chair for such vagrant fancies because of its being Christmastide, I may be allowed, perhaps, after writing thus to go farther, and suggest in Orchids higher qualities still. Real nobility ever lends an ear to the sick and needy, and its floral prototype would never be more at home than in soothing the sufferers whose Christmas greeting is uttered by the hospital nurse. Would these delicate wax-like ornaments of our hothouses be out of place, think you, there? Rather is it that their loveliness has found its proper task when ministering to the wants of those who are smitten, and who mourn while their fellows rejoice. What beauty is there in that which does not move the breast nor stir the intellect? Orchids surely are capable of doing both. So let us surround ourselves with them and every fair thing that will tend to higher aspirations and wider thought.

But writers, like preachers, are the better for some inspiration, and so I journey out a few miles beyond the city smoke and seek it, where of all other places it is most likely to be found at the drear midwinter season. Should anyone be tempted to think that an Orchid carol must be forced and lack spontaneity he should spend an hour or two at Christmastide in the great Sanderian home not far from the Cathedral of St. Albans. No flowers! Why

there are visions of loveliness that would have filled the good saint's heart with gladness could he have seen them in the long ago. So far from there being "no flowers," the difficulty rests in which to choose. Well may the first pause be over so beautiful and chaste a Christmas Orchid as *Laelia autumnalis virginalis*, an ivory-like flower, the purity of which is only broken by a mauve stripe across the throat. And not less worthy of remark is the hybrid *L. Oweniana*, a cross between *Dayana* (seed parent) and *xanthina*. It is a dwarf form with white sepals and petals, the side lobes of the throat enriched with purple. Warmth is imparted by *L. Gouldiana*, glistening and shimmering with a lovely rosy carmine glow which suffuses the sepals and petals. The throat is tinged with yellow and lined with brown streaks. *L. anceps Oweniana* gives beautiful combinations of colour. The petals and sepals are rich rose, paler at the base, and with broad, Carnation-like flakes; its lip magenta, the side lobes of the throat striped with brownish purple and the edges rose. *L. Gravesiae* (*crispa superba* × *præstans*), soft blush with purplish magenta lip, presents pleasing contrasts, and the white variety of *L. anceps* is admired for its purity. With hundreds of others showing bloom, he would be bold indeed who would say that "Christmas Orchids" was a misleading term even if we had *Lælias* alone.

But *Oncidiums* and *Odontoglossums* yield their quota of interest and beauty. *On. Phalaenopsis* has rose and white flowers that cannot fail to charm. *Od. Insleayi* *Leopardinum* and *Od. I. splendens* give quaint harmonies in green, chocolate, yellow and brown. The first has green sepals with chocolate blotches, the lip clear yellow and marked with rich crimson maroon; the latter has larger and finer light brown flowers, the lip pale yellow with reddish blotches round the edge. *Od. Phalaenopsis* and *Od. Roezli* are in bloom also, the latter being represented by the white and red varieties, both beautiful. *On. Gravesianum* is bearing long wreaths of its brown and yellow blossoms, while *On. cheiroporum* uplifts spikes thickly furnished with small yellow flowers. *Od. Pescatorei* and *Od. crispum* are coming in thousands. *Od. Rogersi* and *Od. maculatum* are both there, while the rare and chaste *Od. Rossi* albens charms with its delicate beauty.

Cattleya time is far distant, but a few of this noble race enrich our store of Christmas Orchids. *C. labiata* might naturally be expected to be amongst them, and there it is in truth with its rich and glistening flowers, so well suited for catching the reflection of the illuminations of the Christmas table, and assuming new charms with every fresh ray of light that falls upon it. Ah! but there is a still fairer jewel, a white variety, pure as the driven snow, and with only a faint tinge of yellow in the throat to relieve its chasteness. It appeared in a *Sanderian* importation of *labiata*, and the fortunate owner is Mr. Wells of Broomfield, Sale. It has all the noble proportions of its parent, and must rank as one of the loveliest Orchids in all our rich store. *C. O'Brieniana* is widely different, coming nearest, perhaps, to *C. Walkeriana nobilior*, but is beautiful, too. Its sepals and petals are soft lavender with a rosy suffusion, the lip deeper. *C. amethystoglossa* *Selwood* variety is another gem of this genus now in bloom. The flowers, borne in a cluster of six, are stout in texture and beautifully marked. The sepals and petals are cream spotted with magenta, the lip and upper part of the tube rich magenta.

Of the Christmas *Cypripediums* but a faint idea can be given. They contribute the most generously of all, and their harmonious hues yield as much pleasure as their quaint forms do interest. *C. Lathamiana* (Clark's variety) and *C. nitens* (St. Albans variety) demand the detailed description that want of space forbids, for both are handsome and distinct. More powerful still are the claims of the three splendid *Leeanum* varieties—*gemmaum*, *giganteum*, and the *Audenshaw* variety, for this extending section is one of the most beautiful and valuable of all. The dorsal sepal of the *Audenshaw* form is almost circular, and nearly all white, but with a broad central stripe of purple. It is the opposite cross to *C. Leeanum*. *C. Johnsonianum* is altogether a distinct type of flower. It is a cross between *C. nitens magnificum* and *C. Lawrenceanum*, the former being the seed parent. The petals and pouch are of rich burnished chocolate, the dorsal sepal green thickly spotted with purple, and with a broad white margin. *C. Calypso*, *Oakwood* variety, and *C. Alcides superbum* are again distinct, and each in its way beautiful. *C. Chamberlainianum*, one of the most distinct and effective of *Cypripedes*, is in bloom too. Imported plants of the Slipper Orchids are packed together in thousands, like *Rhubarb*. May some of them swell the ranks of Christmas Orchids with valuable additions when the time for blooming comes.

The list is by no means exhausted yet. Fine plants of hybrid *Phaius* are opening their flowers, and *Phalaenopsis*, which, despite their peculiar reputation, grow like weeds, are full of bloom. *P. amabilis* and *P. Sanderiana*, with their arching sprays of chaste and lovely blossoms, are ideal Christmas Orchids. *P. Esmeralda*

grandiflora, blush with magenta lip, is distinct and charming. *Lycaste Skinneri* and *alba* add their mite, as also do the small white *Dendrobium Fitchianum*, the Penguin Orchid (*Catasetum discolor*), *Cymbidium eburneum*, of which there is a splendid stock, *Epidendrum macrochilum album*, *Angiaecum Sanderianum*, *Dendrobium Cassiope*, a pyramid of blossom and nearly always in flower, the lavender coloured *Calanthe Sanderiana*, and others that might be named if considerations of space did not stand in the way. Enough has been gleaned from this marvellous Orchid home with its 100 yards long houses, fitted with every convenience that means and skill have been able to provide, with its myriads of plants in magnificent condition, and with its railway line and station for dealing with the vast imports and exports of the establishment, to show that there are Christmas Orchids in abundant numbers, variety and beauty.

If I may venture one gentle criticism about Orchids in this, my carol, before concluding, it would be directed to the system that looks not for value in the beauty of the flower but in oddities or peculiarities of marking. It is this which puts Orchids so much beyond the pale of human affection and sympathy as to make men regard them as objects to marvel over rather than to love. After all they are flowers, and flowers, too, with possibilities of greater good than accrues from furnishing material with which wealthy men gauge each other's riches. I take advantage of the heart-opening and brotherly love which Christmastide so widely calls forth to urge that Orchids are not alone stocks to be gambled with nor idols to be worshipped, but ministering angels from the great flower paradise to soothe the sorrows and beguile the sadness of humanity.—W. P. WRIGHT.

SHOWING AND JUDGING HARDY FLOWERS.

I HAVE read with considerable interest the letters upon the above subject. I did not intend taking part in the discussion until I read on page 521 Mr. J. A. Williams' remarks. "Nothing can be more inartistic nor hideous than the flat, squashed-up huge bunches of annuals, biennials, and perennials such as are now staged at most shows." Similar words have often been expressed by me. Flowers would be more interesting and instructive upon the exhibition table were they exhibited in their natural growing state. This has been long in custom at some shows with Stocks, Love-lies-bleeding, and other annuals; why not with others? Full spikes only of hardy border flowers should be staged, except in those cases where single specimen flowers only are appropriate. By the encouragement of such a system plants would be better cultivated, and not crowded in thickets, as is the case in so many gardens.—W. T. B.

THE subject of the satisfactory exhibiting of hardy flowers at shows, whether in bunches or otherwise, is well worth discussing, at this time of the year especially, as it may lead to some needful changes being made in the phraseology of schedules before those for next year are issued. I think the proper designation for the class or classes referred to would be "hardy garden flowers," and that designation would of course include flowers of every hardy plant, tree, or shrub that grows in gardens. But that would be thought perhaps in most instances to be too wide a class, as, for instance, in many shows there is found a class or classes for annuals in bunches; where these are found, then in any class for hardy garden flowers annuals should be specially excluded. Still farther it would be found desirable to exclude Roses and shrubs. These are, of course, "hardy border flowers," and therefore it would be easy also to say "Roses or shrub flowers excluded." What is wanted is to form, in a simple, lucid, yet comprehensive fashion, classes for all sorts of hardy garden flowers, in bunches or otherwise, so as to have wide interpretations and as few annoying limitations as possible. Bulbs, I take it for granted, have been by some judges excluded from the term "perennial" because in most, if not in all, cases, the old bulb dies with the plant growth yearly, and a new one is formed. Hence bulbs cannot be regarded as perennial in the same sense that *Delphiniums* or *Phloxes*, which are herbaceous; or *Pansies*, *Pinks*, or *Carnations*, that are purely perennial. With reference to the size of the bunches shown, that is a matter of some importance, although in the estimation of good judges quantity cannot excel quality. Still some bunches are largely overdone. Mr. Shanks' suggestion as to the limiting the size of the receptacle or holder of the bunches is a good one, and if not permitted to exceed 2 inches in diameter I think that would be found large enough for all useful or decorative purposes.—A. D.

I BEG to thank those of your readers who have kindly given us their views on the above subject, and trust before the discussion

ends some definite rules may be adopted for showing and judging hardy flowers to the satisfaction of all concerned.

I most gladly agree with the Editor that we drop the technical terms "herbaceous" and "perennial," and thank him for suggesting the broader term "hardy border flowers." We might even go a step farther, and drop the word "border," and reduce it to "hardy flowers." As the Editor observes, it has the merit of simplicity, and has a good old-fashioned ring with it. Disposing thus of "herbaceous" and "perennial," we should not be exposed to the vexatious "disputes and wrangles" that have, unhappily, more than once disturbed our peace and destroyed our pleasure at an exhibition. The term "hardy flowers" would, of course, require the proviso respecting annuals and shrubs.

With regard to the question of hardiness, raised by "B." (amateur), I have little or nothing to say beyond this—that in my somewhat lengthened experience it has scarcely ever seriously cropped up. The only flowers that I have had any trouble with on that score are *Liliums Browni*, *Harrisi*, and *auratum*; and though they are hardy, and can be successfully grown in the open in most parts of England, the judges in each case decided against them, and I hold the decided opinion that they were in each case grown in pots inside. It was with a remembrance of these instances that I asked if flowers grown indoors should be allowed to have points over those grown in the open. The best way out of the difficulty is, I think, to adopt "B.'s" suggestion, and exclude hardy plants grown in a house, for though a hungry pot-hunting exhibitor (if there be such a person) might stage examples grown indoors, he would not be likely to introduce the best that could be produced, and they might not often turn the verdict in his favour. In ninety-nine cases out of one hundred, I venture to say, the exhibits would be honestly produced out of doors.

The Rev. F. Page-Roberts says he would not allow full points for the varieties of one kind in a small collection. Well, I candidly confess if the stands were in other particulars equal I, too, should be inclined to withhold points, and yet I can see a probability of extra colour being gained by using two of one kind, that might recover the lost "points." In any case I should not suggest showing distinct kinds, and for this reason many of the most popular groups of hardy flowers differ in every important particular, in form, habit, colour, time of flowering, &c., that equal skill is required to creditably stage two varieties of one kind as two of dissimilar kinds. We have in *Liliums* a diversity of form, colour, and habit, likewise in *Gladioli*, *Campanulas*, *Papavers*, *Iris*es, *Spiræas* and *Lychnis*es, and these are only a few examples of the many that might be cited. In view of this does it not appear that distinct varieties, rather than distinct kinds, would be acceptable to the large body of exhibitors? What objection can there be to *Delphiniums Minerve* (double), *Belladonna* (single), and *nudicaule* (bulbous) appearing upon one stand?

I am glad your correspondent "Y. B. A. Z." recognises the desirability of restricting in some manner the size of the bunches, though I scarcely think the method he suggests likely to afford the best results. There are so many beautiful hardy flowers that would make no show whatever if the bunches were restricted to five stems each. At the same time, I, too, would rather see, say, a fine spike of *Phlox* by itself than the same spike crowded until it loses its individuality in a mass. I still think that to stipulate the size of the tubes would be the most likely method of bringing exhibitors on to a level footing. "Y. B. A. Z." must not be carried away with the idea that a shilling or two of expense will deter any enthusiastic exhibitor from staging his products in the most suitable manner. Zinc or tin tubes of sufficient size could be purchased in almost any village or town at from 1s. to 2s. per dozen. There is another method that suggests itself as likely to restrict the dimensions of the bunches—i.e., to allow collections of a given number of varieties a given space, but would this not in many cases tend to crowding, and thus destroy every characteristic of the examples staged?

I do not know what I may add to the foregoing. I should be glad if Mr. J. A. Williams' suggestion could be acted upon at once and a society or committee formed to frame rules and regulations for our future guidance. Will Mr. Williams take the initiative? Will he, in the interests of "hardy flowers," "call" together those he mentions in his notes, and have the formation of a society discussed? The Editor, I feel certain, would offer us every facility, by reporting meetings and publishing our notes, and many lovers of "hardy flowers" would most gladly assist once a society was formed.

Meanwhile, may I ask how the following wording for schedules would answer?

For twelve bunches of hardy flowers (grown in the open), distinct varieties (shrubs and annuals excluded), bunches to

be staged in tubes or glasses not exceeding 1 inch in diameter.—E. R. SHANKS.

[May we suggest that the word "kinds" be substituted for "varieties" in a class for twelve bunches; and in a class for twenty-four that two distinct varieties of a kind be admissible? With the significance of the terms "kinds" and "varieties," as fully recognised in flowers as is the case with fruits, as it ought to be, misunderstandings would be reduced to a minimum. In a class for "twelve dishes of fruit, distinct varieties," an exhibitor would be within the terms if he staged four distinct varieties of Apples, Pears, and Peaches; and in a class of "twelve distinct varieties of hardy flowers" the terms would similarly admit four distinct varieties of Carnations, Delphiniums, and Gladioli (or any other flowers). "Kind" is the popular equivalent for "genus," and for purposes of simplification species may well count as varieties in exhibiting. With the amendment proposed we think our correspondent's sample class would be the best up to date. What do others say, including Mr. Shanks?]

TILLANDSIA CARINATA.

A BEAUTIFUL object at present in flower in the stove is this charming *Tillandsia*, or, as it is called, *Vriesia brachystachys*. It was introduced from South Brazil in 1866, and it seems a pity that it is not more generally grown. The flowers rise to a height of 5 or 6 inches, are borne on slender stems, and are nearly fan-shaped, the upper portion being of a pale yellow, and the base deep scarlet, and appearing as if they had been varnished. Of their lasting properties one cannot speak too highly, for we have them in flower for two or three months—in fact, it seems as if the flowers could scarcely fade. Pretty as they are when dotted amongst the stove plants, they are equally so for house decoration, the colour of the flowers showing up admirably by gaslight.

As regards its culture it is not at all fastidious as to what compost is used. Propagation is easily effected by suckers at nearly any time of the year, but I prefer February or March, as then the plants get a favourable season of growth. The compost we use is composed of three parts good fibry loam, making the remaining part up of old mortar, leaf mould, and coarse sand. If the pots are well drained, and as soon as the plants get established, they will stand sunshine, heat, and moisture with impunity, and during the summer there need be no fear of syringing the plants. In the winter time they can be kept much drier, and this is one important point where a large number of plants are used for decorative purposes. It is astonishing what a pretty effect plants in 4 or 5-inch pots and carrying four or six flowers have owing to their rich colouring.—R. P. R.

THE TITS AND THEIR HABITS.

ALTHOUGH, unfortunately, I have not the *Journal of Horticulture* of the 1st inst. to refer to in reply to correspondents individually, who kindly replied to my inquiries respecting the reference made to blue tits and their bud-destroying and bee-killing tendencies, I must thank them for their courtesy in stating their views, none the less because we do not all agree, and it appears are not likely to. I was pleased to learn from Mr. Harrison Weir that the blue tit feeds on Thistle seeds. I have very frequently seen the marsh tit busy on Thistles, scattering the feathery down to the autumn winds, but cannot call to mind any instance of noticing either of the other species.

The question arises in my mind, Do birds vary in their habits in different localities? No one, I imagine, has a better chance to watch them than I have, as I encourage them to build and roost in the most unnatural and grotesque positions imaginable for the amusement and instruction of the young friends who come to see the birds and their nests at "The Wren's Nest" in summer; and at evening parties in the winter I have frequently shown Master Tommy enjoying a night's lodgings in an old boot, a tin teapot, a Tomato tin, or other amusing situation. They have their faults in pecking fruits, and it is very annoying sometimes to find the best specimens spoiled for keeping, but they are generally fit for use, and if too many are injured for present requirements Apples might be evaporated, and Pears bottled, as recently explained in the *Journal* (page 481), so that the actual waste is not worth naming.

Parus major is very destructive to Peas in the pod, and I have no hesitation in saying that I have felt obliged to trap or shoot many in this respect, as also sparrows, hawfinches, and jays, or I should have had none left for table. *Parus major*, commonly known locally as "Tom Collier," is also particularly fond of bees, but I have never been able to discover one killing my bees. I have watched them picking up the cramped, practically dead bees from the snow and from the cold ground, carry them off to a tree or to a clod, place them under their feet, and pull the bees asunder and take out some small portion from the abdomen, and discard all else; but the "blue tit," *Parus minor*, the species referred to, I have never seen once attempt to molest my bees.

A little incident may be worth recording respecting a disputed point on their fruit-bud destroying propensity. I was at Evesham some years ago at a conference of fruit growers, when the same question arose, I contending they were taking pests from the buds, and others that they were attacking the buds for food. Of course no decision could be arrived at, and mere contradiction was useless to prove the point. When at home I concluded to watch my opportunity and shoot one or

more which were busily feeding on my Damson trees "in the very act." I opened one, took out the contents of its stomach, spread it on card-board, where it is now, with the result that not a particle of a bud could be found, but on the contrary it was stuffed full of insect pests of various sorts, particularly brown scale and aphides.—J. HAM.



THE WEATHER IN LONDON.—During the past week the weather has been unusually mild in the metropolis for the time of year. Sunday was mild and dry, but rather windy, similar weather continuing Monday and Tuesday. Wednesday opened fine and dry, but at the time of going to press it is foggy.

WEATHER IN THE NORTH.—We have had no frost since the morning of the 15th, and snow has disappeared from the low grounds, and patches only are seen on the hills. The days of the past week have been generally good, though dull, with occasional drizzle, and high winds have occurred, especially during the nights.—B. D., *S. Perthshire*.

ROYAL HORTICULTURAL SOCIETY.—The next meeting of this Society will take place on Tuesday, January 17th, and not the 14th, as printed in our last issue.

SCHOLARSHIPS IN HORTICULTURE.—At a meeting of the Court of the Worshipful Company of Gardeners, held on Monday, December 19th, at the Cannon Street Hotel, the scheme of examination in horticulture lately set out by the Royal Horticultural Society was brought under discussion, and it was decided that the Company should offer a scholarship of £26 a year, tenable for two years, to be awarded after the examination to the most successful candidate under certain conditions. It was also announced that a second scholarship of the same value was offered by the President of the Royal Horticultural Society, Sir Trevor Lawrence, Bart., and it was hoped that others might follow such good examples. The exact conditions of the scholarships have yet to be settled, but the main provisions will be that the holders shall be between the ages of eighteen and twenty-two years, and that they shall study gardening for one year at least at the R.H.S. Gardens, Chiswick, and for the second year either there or at some other place to be approved.

THE ROYAL HORTICULTURAL SOCIETY AND ITS COMPETITIONS.—The announcement made to the Fellows of the Society on the part of the Council that it is proposed to hold three great exhibitions next year, it is hoped signifies that the few classes with prizes attached furnished at most of the fortnightly meetings will not again figure in the schedule. These have been miserable failures, the awards sometimes going to exceedingly poor exhibits, whilst at times there were none whatever. If at these shows liberal prizes are offered some good competitions may be looked for. The Temple Show will fall on May 25th and 26th. There will be one at Chiswick on July 11th; and surprising as a new departure, one at the Agricultural Hall, Islington, on August 29th to September 1st. That will, indeed, be a big experiment, for which every success is hoped. The good prizes awarded at the Earl's Court series of shows evidenced the power of money in attracting exhibitors. If but £500 be offered in prizes at the Agricultural Hall a grand Show may result.—D.

HORTICULTURAL CLUB.—The usual monthly dinner and conversation was held at the rooms of the Club, Hotel Windsor, Victoria Street, on Tuesday the 13th inst. There was a large attendance of members. The chair was occupied by Mr. Harry Veitch, Vice-Chairman of the Club. Amongst those present were the Revs. W. Wilks, F. R. Burnside, and F. H. Gall; Messrs. John Lee, H. J. Pearson, Alfred H. Pearson, John S. Cousens, J. Burrell, Geo. Bunyard, Joseph Cheal, Geo. Paul, W. J. Jefferies, W. H. Williams, Harry Turner, &c. The discussion was on growing Chrysanthemums for exhibition, opened by an able paper by the Mayor of Taunton (W. Herbert Fowler, Esq.), who was unable to be present. The paper (see page 543) was read by Mr. Alfred H. Pearson, and was received with much interest, and elicited a very profitable discussion. Two fine boxes of Chrysanthemum blooms from Mr. Blair (gardener to the Duke of Sutherland at Trentham) were, through the good offices of Mr. Harry Turner, sent to illustrate the lecture. The next meeting of the Club will be held on January 17th

HEREFORDSHIRE FRUIT AND CHRYSANTHEMUM SOCIETY.—We are informed that the second annual Show of this Society will be held at Hereford on November 15th, 16th, and 17th, 1893.

ROYAL BOTANICAL SOCIETY OF BELGIUM.—We are informed that M. Em. Rodigas, the Director of the National School of Horticulture of Ghent, has been elected President of the Society.

GOVERNMENT TREE PLANTING IN IRELAND.—We learn that large orders for trees have been sent to Messrs. Dicksons (Chester), by the Irish Land Commissioners for planting on the west coast of Ireland.

IMPORTED FRUIT.—According to the Board of Trade returns for November 901,959 bushels of Apples and 19,268 bushels of Pears were imported into this country during that month. In addition to this Oranges, Lemons, Grapes, and other fruit were imported in bulk.

CONIFERS AND TAXADS.—We have received a list of Conifers and Taxads cultivated in the open air in Great Britain and Ireland by Dr. Maxwell T. Masters, F.R.S. The list has been reprinted from the Conifer Conference Report issued a short time ago by the Royal Horticultural Society, and is valuable as a work of reference.

HORTICULTURE IN IRELAND.—The Lord Lieutenant of Ireland was recently presented with an address by the members of the Royal Horticultural Society of Ireland. In reply, his Excellency said the study and practice of horticulture would lead to the promotion of an industry which would be of great importance to the country.

ROYAL CALEDONIAN HORTICULTURAL SOCIETY.—Several shows are arranged to be held during the coming year, under the auspices of this Society. The spring Show takes place on April 5th and 6th, the summer Exhibition on July 12th and 13th, and another on September 13th and 14th. All will be held in the Waverley Market, Edinburgh.

A LATE AMERICAN MILLIONAIRE AND FLOWERS.—It is not generally known that the late Jay Gould, the American millionaire, loved flowers. He knew the names of every plant in the vast green-houses at his country place, and botany was almost his only recreation. Not many months ago he had a most elaborate conservatory erected at an enormous cost.

THE NURSERY AND SEED TRADE ASSOCIATION, LIMITED.—The annual dinner of this Association was held at the Guildhall Tavern, Gresham Street, recently. The President, N. N. Sherwood, Esq., presided, and was supported by a number of members, amongst them being Mr. H. J. Veitch, Mr. H. Turner, and Mr. W. Paul. The vice-chair was taken by the Treasurer, Mr. W. J. Nutting.

WAKEFIELD PAXTON SOCIETY.—At a recent meeting of this Society, Mr. Hudson of Sandal Grange Gardens gave a paper on "The Apple." Alderman Milnes presided, and the vice-chair was occupied by Mr. H. S. Goodyear. The paper proved to be exceedingly interesting, and a long discussion followed. A case containing male and female specimens of the winter moth was shown by Mr. G. Parkin.

A NEW LUMINOUS FUNGUS has been forwarded to Europe from Tahiti. It is said to emit, at night, a light resembling that of the glowworm, which it retains for a period of twenty-four hours after having been gathered, and it is used, by the native women, in bouquets of flowers for personal adornment in the hair and dress. It belongs to the section "dimidiati" of the genus *Pleurotus*, in which no luminous species has been hitherto known, although there are several in the genus, and has been named *Pleurotus lux* by M. Hariot. It is believed to grow on the trunks of trees.

ARAUCARIA IMBRICATA.—I have noticed on several occasions where a flower bed surrounds an Araucaria that the latter is invariably bare of branches at the bottom. I was visiting a place a few years ago where there were two large specimens of this Araucaria growing on the lawn, each in the centre of a small flower bed. The bottom branches had died off a distance of several feet up the stem, but the gardener assured me that previous to the flower beds being made both trees were branched to the ground. It seems a pity that such a beautiful tree should be so disfigured for the sake of a flower bed. This tree evidently do not like its surface roots disturbed. Not far from the two trees referred to is one of the finest specimens in Yorkshire, growing on a lawn. The bottom branches rest on the ground, and the tree is copiously watered with liquid manure during the summer, and it apparently appreciates such treatment.—C. RUSSELL.

— A VINE DISEASE.—Dr. B. Pasquale has undertaken a study of the phenomena and causes of the very destructive disease of the Vine known as "mal nero," his observations having been made chiefly in Sicily. The disease makes its appearance in the form of black spots and streaks on the leaves. Dr. Pasquale finds it to be always accompanied by a Schizomycete, which he believes also to be its cause, and which is parasitic, especially on the tissues rich in protoplasm and in other plastic substances, such as the cambium, the medullary rays, the cortical parenchyma, and the soft bast of the axile organs.

— THE MIDLAND COUNTIES CARNATION AND PICOTEE SOCIETY.—The second annual report of this Society just issued is of a very satisfactory character, showing an income for the year, including a balance from last year, of £188. With an expenditure of £90 in prizes, and donations of £5 each to the Gardeners' Benevolent Institution and the Gardeners' Orphan Fund, there is still a balance in hand of £32. The report is comprehensive, and contains much information of a useful character to amateurs, as full lists of flowers exhibited in the winning stands are given, together with a reliable list of each class of the best varieties for cultivation, comprised from lists sent in by several of the leading cultivators in the Midlands.

— EFFECTS OF THE ELECTRIC LIGHT ON PLANT GROWTH.—The "Botanical Gazette" states that, in a report to the Cornell University, Prof. L. H. Bailey firmly establishes the commercial value of the electric light for certain winter crops, especially for Lettuce. Certain kinds of plants, which are injured by the direct rays of the light, are not injured, but may even be benefited, when the light passes through a clear glass globe or through a glass roof. Auxanometric records appear to show that the light accelerates growth, but does not change its normal periodicity. This is in harmony with the observations of Prof. G. Bonnier, recorded in the "Comptes rendus," who finds that the electric light promotes the formation of chlorophyll in all kinds of plants, both woody and herbaceous.

— CARDIFF HORTICULTURAL SOCIETY.—The annual general meeting of the above Society was held on Wednesday, the 14th inst., and there was a good attendance. In the absence of Mr. A. Pettigrew of the Castle Gardens, Mr. John Morgan took the chair, and in his opening remarks stated that the Society had this year been able to pay off a good sum of the existing debt due from last year. There was an increase of subscriptions, but a large falling off in gate receipts, due to the rain on the second day of the Show. The entries exceeded by 200 those of last year, and were in every department of much greater merit, and there was no doubt the Society had now established a reputation. The Mayor of Cardiff was elected President, Mr. J. D. Morgan Chairman of Committee, with Mr. Stephen Treseder of the Pwllcoch Nurseries, Vice-Chairman. Mr. H. Gillett was re-elected Secretary. The next Show was fixed for the 15th and 16th August.

— LIVERPOOL HORTICULTURAL ASSOCIATION.—The second lecture of the fourteenth series of winter readings was held in the Free Library on Saturday evening last. Mr. White presided over a well-attended meeting, and introduced the lecturer, Mr. Harrison, gardener to Lord Derby, Knowsley Hall, as a well-known authority on the subject he had chosen—viz., "Ornamental Trees and Shrubs." Mr. Harrison treated his subject thoroughly, comprehensively, and admirably. A discussion followed. Mr. Ranger advised all young gardeners to let their first aim be to gain a thorough knowledge of trees and shrubs, and when making a plantation to plant carefully all those required for a permanency, and all delicate ones to be protected with other trees until well established, afterwards to be cut away. Mr. Ker pointed out how easy it was to stock a conservatory and make it ornamental; but in planting a shrubbery it required great foresight, as it would take many years to see if the work had been well done. Votes of thanks to Mr. Harrison and the Chairman terminated the proceedings.—R. P. R.

— BOY GARDENERS.—Amongst the various incidents that have cropped up in connection with the courses of horticultural lectures in the county of Surrey, I have met with none more interesting than is found in the regular attendance at one place of a number of strong, hearty, bright, intelligent lads from the Gordon Boys' Home. These form capital material for the making of future garden labourers, and in time something much better. They are not gutter lads, but of a much superior kind; and that intensely sharp, precociously cunning look which characterises lads in a reformatory school is altogether wanting—happily so. These lads come to the lectures under the charge of the gardener and bailiff to the Home, Mr. Hale, a most intelligent man, and who it is certain will do his best to make these lads capable

and useful. He would be only too pleased to obtain for them from time to time situations in gardens, and I should regard them as trained so far to make capital helpers.—A. D.

— DEATH OF MR. WILLIAM PRATT.—It is with much regret that we record the death of Mr. William Pratt, lately head gardener to the Marquis of Bath, Longleat, Warminster, which took place on the 12th inst. at Southgate Hotel, Southgate Street, Bath, where the deceased had been carrying on the business of wine and spirit merchant for three or four months. During the nine or ten years that the late Mr. Pratt was at Longleat he distinguished himself a most successful Grape grower and a thoroughly good all-round practical gardener. Mr. Pratt was forty-two years of age at the time of his death, and he leaves a wife and young family to mourn his loss. Previous to taking charge of Longleat Gardens the deceased was several years gardener to Lord Hill, Hawkstone, Shrewsbury, where he distinguished himself in the culture of plants and other things.

— EAST ANGLIAN HORTICULTURAL CLUB.—A pleasing feature in the proceedings of the annual general meeting of this Club, held at their headquarters, the City Arms, Norwich, on Wednesday, December 14th, was the presentation of an enlarged framed photograph of himself to Mr. F. Morris, The Gardens, Witton House, than whom no member is more justly appreciated in every way. Mr. Morris was again elected President, for the fourth year in succession; Mr. H. N. Bartlett, The Gardens, Earlham Hall, was elected Vice-Chairman in place of Mr. Barnes, while the latter gentleman and Mr. Bracey of Thorpe were appointed his deputies for the ensuing year. Mr. Charles Daniels was chosen as Hon. Treasurer in lieu of his brother Mr. George Daniels, who has resigned, to the regret of all the members. Mr. A. F. Upstone, of Messrs. Daniels Bros., was for the third time asked to undertake the onerous duties of Hon. Secretary. The Committee were almost to a man re-appointed. About sixty members were present.

— GENERAL RULES OF THE CLUB.—We publish the following rules of the above Club, passed at general meeting, January 13th, 1892, as they contain good points, and may be suggestive. 1, That this Club be called "The East Anglian Horticultural Club." 2, That the Club shall be for the advancement of horticulture, and for promoting a friendly and social intercourse amongst its members and their friends, and that political and religious subjects shall not be discussed at any of the meetings. 3, That there shall be a President, two or more Vice-Presidents, Treasurer, Secretary, and a Committee of eighteen members, seven of whom shall form a quorum. 4, That the President, Vice-Presidents, and Treasurer shall be ex-officio members of Committee, and shall retire annually, but shall be eligible for re-election. 5, That six of the Committee shall retire annually, but shall be eligible for re-election. 6, That the Club shall consist of two classes of members, honorary and ordinary; that the annual subscription for the former be not less than 10s., and for the latter 5s., and for under gardeners 2s. 6d. Ordinary members' subscriptions shall become due on the 1st of January, and if not paid by the second Wednesday in July the defaulter shall cease to be a member, and forfeit all privileges of the Club. 7, That all persons wishing to become members must be proposed on forms or nomination papers, provided by the Club, and elected at the next meeting; the proposer to pay a fee of 1s. at the time, such sum to go towards the general expenses. 8, That a portion of any surplus money at the end of each year may be used for benevolent purposes, to be administered as the majority of the Committee may deem advisable, and whose decision in all matters relating thereto shall be final. 9, That a free register of gardeners out of employment, or in want of situations, shall be kept, so that members desirous of assisting their brother gardeners to obtain situations may find a valuable aid therein. All members are therefore requested to co-operate in this, by making known to the Secretary their wants; also to give information of any situation which they know is vacant or likely to become so. 10, That members may introduce friends at any of the meetings, and that a visitor's book shall be kept, which must be signed by both visitor and member on the evening of introduction. 11, That meetings be held monthly, at 6.30 P.M., on the second Wednesday in each month. 12, That a banquet be held each year, on the first day of the Norfolk and Norwich Chrysanthemum Show, each member paying for his own ticket. It is thought by adopting this plan there will be a surplus for benevolent purposes and for other objects the Society have in prospective. 13, That these rules shall remain in force till the end of the year, and no alterations be made except at the annual meeting. One month's notice must be given in writing to the Secretary of any proposed alterations.

— **MORE YELLOW ARUMS.**—Since last I sent you a note about these plants, though only about a fortnight has elapsed, yet in that short space two more forms have quite unexpectedly been offered for sale to the public. The first of these is sent out under the name of *Richardia aurata*, and is a hybrid between *R. albo-maculata* and *R. hastata*, raised by the well-known French hybridist Monsieur J. B. A. Deleuil, of St. Anne, near Marseilles. The second has been sent by a collector from the neighbourhood of Lake Nyanza, under the provisional name of *Pride of the Congo*, and is said by the sender to be a very handsome form of the Golden-spathed Arum. About a hundred tubers of this plant were sold by public auction on Wednesday last by Messrs. Protheroe & Morris, and fetched comparatively low prices, realising only between £60 and £70 for the lot. I think that when these plants bloom in the course of next year that the hybrid of M. Deleuil will probably turn out to be either identical with the form now known as *Ellioti*, or, if not, then closely resembling it, and that the so-called *Pride of the Congo* will be what is now known as *Pentlandiana*. It seems that it is botanically incorrect to call these plants *Calla*. Their only correct name is *Richardia*, and the proper specific designation of the common type form is *R. africana*, and not *R. æthiopica*, as it is generally called.—BOSCOBEL.

— **MODERN GREENHOUSES.**—I was very pleased when perusing the practical paper, read recently by Mr. Roberts at a meeting of the Preston Horticultural Society, to especially observe his pithy remarks regarding the construction of many modern greenhouses. I agree with him that at the present day they are built far too light, and consequently airy, for many plants. The one idea seems to be lightness and elegance, both necessary to a certain degree, but plants require moisture as well; modern and elaborately tiled houses are much too dry. Light, of course, is necessary—it is the great consolidating agent, but due regard must be had when building houses as to what plants are to be grown, and constructed accordingly, not sacrificing conditions essential to their well-being in straining after showiness. Many architects' conservatories and greenhouses are torments to plants and gardeners alike.—J. J. C.

— **A PRETTY NEW DOUBLE ZONAL PELARGONIUM.**—At the last meeting of the Birmingham Gardeners' Association, Messrs. Cannell & Sons, Swanley, Kent, sent some blooms of their new variety "Double New Life," and the pedigree of this variety is given in a few words. The old familiar bedding Zonal *Vesuvius* was raised about 1866 by the late Mr. Windebank, a well-known nurseryman at Southampton, and was introduced by Messrs. F. & A. Smith, then a well-known firm at Dulwich. This variety often "sported," producing white, pink, and salmon varieties, and recently the pleasing single variety of *New Life*, as well as the old double variety "Wonderful," and from this double scarlet variety we now have Messrs. Cannell's "Double New Life," which appears to take the character of *Wonderful*, but the flowers are very distinctly flaked with bright scarlet and clear white.—W. D.

— **PRIMULAS AT KEIGHLEY.**—I have had the pleasure of inspecting a very fine display of remarkably well grown plants in one of Mr. J. Carter's houses, a span-roofed structure 60 feet long and 12 feet wide. It was filled with double and single varieties. Among the doubles were *White Lady*, *Marchioness of Exeter*, white flaked red; *Princess of Wales*, white well fringed; *King of the Purples*, large; *Purple Perfection*, very good; *Rosea superba* (new), a very pleasing rosy purple; *W. H. Parker* (new), deep red; *Lord Beaconsfield*, *Peach Blossom*, and *Fairy*. The Old Double White is grown well, but is excelled by *White Lady* and *Princess of Wales*. Amongst the semi-doubles, *Mrs. Langtry*, flesh colour; and *Miss Edith Parker*, white flaked red, were very good. The singles were magnificent, some of the blooms measuring 2½ inches across, and of immense substance. The best of these were *Princess Louise*, white; *The Queen*, white; *Marquis of Lorne*, rosy purple; *Emperor*, salmon red; and *Dark Red*, deeper than *Chiswick Red*, and very striking.—P. R. T.

— **WOOLTON GARDENERS' MUTUAL IMPROVEMENT SOCIETY.**—On Thursday evening last, at the Mechanics' Institute, Woolton, T. Lewis Bailey, Esq., gave the last of his lectures, which have been held under the Lancashire and Cheshire University Extension Association. The lecturer treated in a thorough manner on "Manures: what they are, their classification, natural and artificial, how and why they affect plant life, and their analysis." Throughout the course the lecturer has gone on the lines that his hearers have had no previous chemical knowledge,

consequently the lectures have been strictly rudimentary. They have proved far more valuable, too, owing to the experiments and the excellent lantern slides which have appeared on the screen. It will be no fault of the Committee connected with this Society if the Woolton gardeners do not take high rank in the near future, for they have already announced a course of six lectures on botany, the first commencing on January 26th. The Hon. Secretary, Mr. Wm. Disley, works hard to keep everything up to date.—R. P. R.

— **TULIPS IN AN IRISH GARDEN.**—Few amateurs strive for completeness in anything taken up so thoroughly as Mr. W. G. Gumbleton. He has long devoted considerable attention to early Tulips, and this season has planted nearly 4500 bulbs, in all the choicest and best varieties. One large border is planted in forty-four contingent circles of *Saxifraga Camposi*, the Tulips being in dozens, and all very carefully arranged as to height and colour; and half dozens of other choice varieties are planted in the centre of a set of small beds. Besides these there are twenty-three beds, the number of bulbs in each varying from forty-eight to 170. Mr. Gumbleton has favoured me with lists of the varieties he has planted, and it is clear from them that he has spared neither care nor expense to get the very finest in cultivation. Such sorts as *Queen of the Netherlands* and *Pink Beauty* will interest by their novelty, as well as charm with their beauty. There can be little doubt that in the spring Belgrove will be a Tulip lover's paradise.—W. P. W.

— **THE MIDLAND COUNTIES GARDENERS' ASSOCIATION.**—At the meeting of the Association on the 12th inst., Mr. H. Cannell, Swanley, Kent, contributed a paper on "The Rose," and in his opening remarks strongly recommended great care being exercised in lifting Roses from the ground, so as to preserve every root, and advised careful packing. He pointed out the too common practice of digging a small hole in planting and using fresh manure from the stables, which he condemned. He urged using good loamy soil if possible and rich manure not directly on the roots. He especially emphasises the necessity of the roots being kept damp in transit and not allowed to be exposed, and get dry before planting. Messrs. Cannell & Sons sent specimens of their fine strain of *Cyclamens* and a superb bloom of a new Japanese *Chrysanthemum*, *Mdlle. Marie Recoura*, pure white, resembling *Puritan* and *Stanstead White*, a very late bloomer, with fluted tubular petals, and presumably not so subject to damp as some whites; also blooms of their new Zonal *Pelargonium* "Double New Life." Messrs. Vertegans & Co. exhibited ripe fruit of *Diospyros Kaki*. Messrs. Thomson & Co. contributed a fine bloom of a scarlet self seedling hybrid *Margaret Carnation*, the plant raised from seed in February last, and has been in bloom since August.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

A GENERAL meeting of this Institution was held at Simpson's, 101, Strand, on Tuesday, December 20th, to consider the advisability of confirming new rules drawn up by the Committee, making various alterations in the old ones, and changing the title of the Institution from its original designation to that under which it is now generally known for the purpose of registration. H. J. Veitch, Esq., the Treasurer, occupied the chair, and he was supported by Mr. Pocock, honorary solicitor for the Institution, Mr. John Lee, and Dr. Hogg. There was a large attendance of subscribers, and amongst those present were Dr. Masters, Messrs. N. N. Sherwood, Owen Thomas, A. F. Barron, J. Laing, G. J. Ingram (Secretary), and others.

The Chairman, in a few opening remarks, said that a short time ago the Committee of Management thought it was desirable to change some and make various alterations in other rules. Mr. Pocock, their solicitor, was consulted on the matter, and he said that it was a very delicate subject, inasmuch as they would have to work under the Friendly Societies Act of 1875. When the rules were originally drawn up the investment laws were very strict, but since then various Acts of Parliament had been passed, and the Committee thought it was advisable to avail themselves of the full advantages if they had any money to invest. The old rules, except one, were all incorporated in the new rules, and would meet the requirements of the time. After much discussion, many new rules and sub-sections and alterations were passed.

Dr. Hogg, after the alterations and additions were adopted, moved a proposition to the effect that the now existing rules be the rules of the Institution. Dr. Masters seconded, and the proposition was carried unanimously.

A vote of thanks to the Chairman and to the Solicitor concluded the proceedings.

WORTH PARK.

WORTH PARK, the country residence of Mrs. Montefiore, stands amidst rather flat, but beautifully timbered surroundings, about a mile north of Three Bridges Station on the main London, Brighton, and South Coast Railway. It is approached from the Crawley and East Grinstead road by a broad substantially made carriage drive, winding through ornamental pasture land, while nearer the mansion it assumes the form of a fine straight avenue planted with Limes of a dozen years' growth. In front of these, on a broad grass margin, are clumps of Rhododendrons and other flowering shrubs.

On arriving at the gardens, which are situated a little to the right of the drive, we were welcomed by Mr. Glen, Mrs. Montefiore's able gardener, who conducted us over the extensive range of forcing houses. To the north of the main range are several long ranges of pits. One of these was filled with Violets, Marie Louise and Swanley White being favourite sorts. In others were a large stock of Bouvardias, promising abundance of bloom during the winter. A large quantity of the useful Arum Little Gem is being worked up, while other pits were occupied with Primulas and various winter flowering-plants. Loxford Hall Seedling Strawberry is much valued here, one of the pits being planted with it, and at the time of our visit (the last week of September) there was still some fruit on the plants.

We now enter a range of span-roofed houses, recently extended, and

houses, were stripped of their sashes, the wood of the trees showing well for another year's work. To the left are lean-to vineries. The first is an intermediate house, originally Hamburgs, but now being worked with Alicantes and Gros Marocs, more to be depended upon for late autumn supplies. The early house in the centre is filled with Chrysanthemums in their season. The third division is a Muscat house, and the Vines were carrying a crop of useful sized bunches.

We are next invited to inspect the cordon Pear wall. This is over 500 feet long, has a west aspect, and all the leading sorts are represented and doing well. Considering the great number of varieties grown the trees have made fairly even progress; what few breaks there are have been made by a judicious weeding out of inferior sorts. The present not being generally a good Pear year it may be of interest to name a few that have cropped well. These are: Marie Louise d'Uccle, Louise Bonne of Jersey, Beurré d'Anjou, Beurré d'Aremberg, Winter Nelis, Thompson's, General Todleben, Pitmaston Duchess, Madame Treyve, Beurré Hardy, Baronne de Mello, and Vicar of Winkfield. A hurried glance at the crops in the kitchen garden speaks of its good cultivation. About fifty persons have to be duly supplied with vegetables, a task which must entail no little forethought and anxiety. In a south border we observed that a breadth of Dwarf Beans that had been exposed to the frost of the morning of September 18th were being nursed into growth again under a covering of sashes. We now come to another range of pits in which were different sowings of Dwarf Beans coming on to

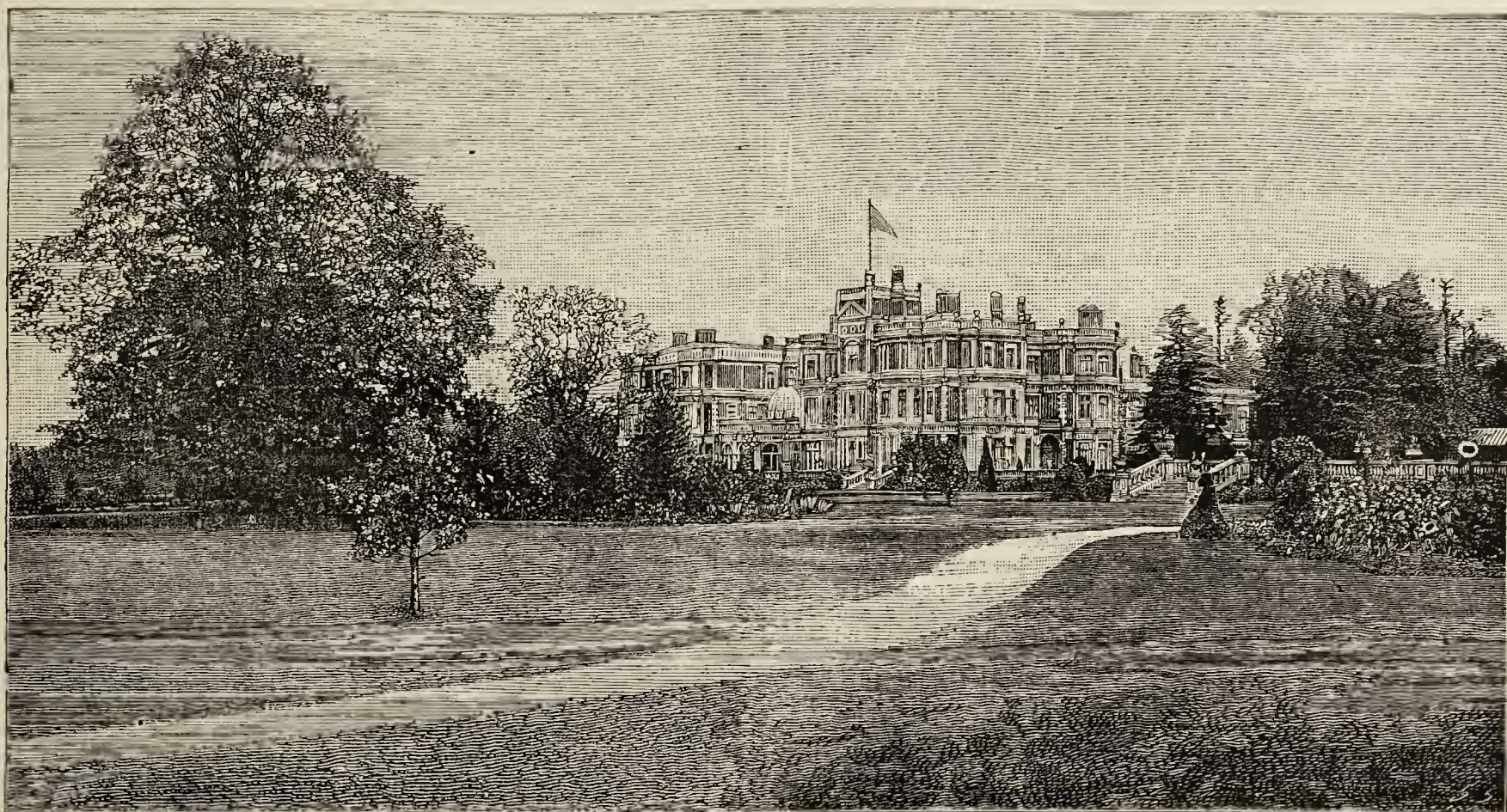


FIG. 73.—WORTH PARK, SUSSEX.

the old part new roofed. The centre house is a wide span, one division is occupied with a healthy collection of stove plants—Crotons, Dracænas, Cocos Weddelliana, and other Palms in a small state are grown extensively for decoration; while the roof is thinly covered with Allamandas flowering profusely. The other division is devoted to Roses; the leading Tea and Noisette varieties are planted out, and supported by stakes. Two divisions of the adjoining range are devoted to Carnations. Malmaisons and Miss Jolliffe are grown by the hundred; Winter Cheer, Mrs. Moore, Lucifer, and Sir C. Wilson are also grown. Here also is a small collection of Orchids, conspicuous amongst them being some huge pans of *Cœlogyne cristata* already showing some hundreds of flower spikes.

Next we come to a Melon house, bearing the last crop of the season; the remaining house being occupied with greenhouse plants. Some small beds at the end of the stove are planted with Celosias. They were very fine, and are likely to get a fair trial as bedding plants another year. Adjoining are ample shed accommodation with useful arched cellars underneath suitable for storing roots and making Mushroom beds. A fine lofty fruit room, fitted all round, and in the centre, with fixed shelves and sliding trays between each, giving double storage in the usual space. There is also a well-fitted Grape room, a good office, and equally comfortable rooms for the young men. We next visit the Fernery, a long lean-to with north aspect. The back wall is covered with Maidenhair Ferns, giving an endless supply for cutting. Amongst the plants on the front stage were arranged a first batch of Poinsettias, of which some 400 are grown annually.

On entering the kitchen garden to the right are the Early Peach

succed those just mentioned. Other pits were filled with Gardenias and Poinsettias in fine condition. In a frame were some hundreds of this year's seedling Begonias planted out. These were being sorted into colours for future bedding as they come into flower. The strain is Veitch's, and is fine. Then we enter the late vinery, which is mainly occupied with Lady Downe's, but a few young Vines of Muscats are bearing some splendid bunches. Two late Peach houses are furnished with fine clean healthy trees.

Still another range of houses have to be inspected, having been recently rebuilt. They are for Melons and Cucumbers, and are now all that could be wished for early forcing. One of the divisions is devoted to Cucumbers for a supply during the autumn. In the next house are some fine healthy Cypripediums, and in a third a batch of Celosias for winter decoration. In front of the Vine borders were some Strawberries in pots, about 2000 sturdy plants. Viscountess Hericart de Thury, President, Sir Charles Napier, and James Veitch are the sorts depended upon.

Crossing the carriage drive we enter the Camellia corridors. This structure is rather a novelty. It is 400 feet long, about 8 feet wide, has a span-roof of tiles, and the west front of it is glazed with very large squares of plate glass. The back wall is covered with Camellias, which do fairly well, but no doubt, as pointed out by our guide, they would make shorter-jointed, better ripened wood if the west side of the roof, as well as the side, were glazed. This pleasant promenade forms the eastern boundary to the Dutch garden, a prettily laid out geometrical design, with a fountain in the centre. Here, as also on the terrace round the house, Begonias have quite taken the place of Pelargoniums for

summer bedding, twenty-seven beds having been planted this year. The mansion stands on a broad handsome terrace 260 yards long. A number of beds here were planted with Madame C. Desgrange Chrysanthemum on a groundwork of dark Heliotrope with pleasing effect. A large bed at the north-west corner of the terrace planted with Cannas surrounded with a band of Love-lies-bleeding drooping over an edging of Centaurea, was very striking. From the broad flight of steps leading from the terrace to the grounds beyond a fine view is had of the beautifully kept lawns, choice shrubbery borders, large beds of Roses, Dahlias, and other bedding plants in great variety. Beyond can be seen the boundary trees of a Yew-planted maze, and in front the lake with its surrounding shady walks made bright and interesting in season by clumps of Rhododendrons, Azaleas, and other flowering shrubs.

The rebuilding and extension of the mansion to its present noble proportion, as seen in the engraving, fig. 73, was commenced in 1884, and finished in 1887, and during the same period the grounds were completely remodelled. In planting the very choicest shrubs and trees have been selected, and are now growing into effective groups. Mrs. Montifore is not only a liberal patron of horticulture, but takes a deep interest in the welfare of her large staff of servants, by whom she is much respected. Much credit is due to Mr. Glen in bringing the extensive alterations to a successful termination, and for the beautiful condition in which everything is kept.—R. I.

A BOOK ABOUT FERNS.*

THROUGH the deep dells of the woodlands cold winds are sweeping. To the Fern lover it is not a time of pleasure, for many of his favourites are in the midst of their winter sleep and others stand forlorn, looking as much out of place as a slender yacht wrestling with a fierce winter sea. The Fern paradise has lost its beauty for the nonce. But the kingdom of the flowerless is wide, and to the truly catholic there is abundant consolation for outdoor dulness in the graceful denizens of greenhouses and stoves; there need, therefore, be no apology for fulfilling a too long postponed task in reviewing Mr. G. Schneider's great work on Ferns at this the first opportunity of devoting an hour's leisure to its pleasant and instructive pages. It is not Fern time it is true, but in one sense so much the better, for the quiet season of labour affords opportunities of making up the arrears of reading which have been accumulating during past months.

When rumour first spoke of an important new work on Ferns, the name of the author had not transpired, but no error was made in connecting with it the name of the Anglo-French specialist, who has for so many years filled a responsible trade position with credit and even distinction. Mr. Schneider was driven to take refuge in England after the terrible Franco-German struggle that brought his family and his country to the verge of ruin twenty years ago, a struggle in which he bore a manly and honourable part. He arrived ignorant of our tongue, friendless and destitute—fortune seemed, indeed, to have cast him aside; but he had the courage, the talent, the energy of his race, and as France has risen triumphant over her difficulties, earning the respect of all who are not blinded by foolish patriotic prejudices, so he, her son, has acquired an honoured position and troops of friends in the land that gave him shelter. To gain sufficient familiarity with a strange language as to be able to prepare such a work as that now under notice speaks eloquently of the author's ability and assiduity, and in considering what he has done, it is but justice to recall the circumstances which led by such devious and apparently ruinous paths to a prominent position among British Fern growers, and the authorship of the most complete practical work upon them in our language.

The *Book of Choice Ferns* aims at completeness. It deals with outdoor and indoor kinds and varieties, both culturally and descriptively; moreover, it attempts to solve the knotty problem of combining the technical with the popular. There is not the slightest doubt that Fern nomenclature and description as at present recognised and conducted militate in no small degree against the popularity of the plants. No better proof of this could be desired than was provided at the Fern Conference in connection with the magnificent exhibits of British species and varieties from the collections of Messrs. Lowe and Drury. The beauty of many of the Ferns attracted special attention, but after a study of the—to them—interminable and incomprehensible names and descriptions, the uninitiated fled dismayed and mystified. There are powerful elements of popularity about Ferns, and it is to be regretted that technicalities should be allowed to stand in the way of those elements bringing about the desired results. From the specialist's point of view he is perfectly right. "Fronde" may satisfy those who are just cognisant of the fact that such a term is used in connection with Ferns; but what does it convey to an experienced grower? To him pinna and pinnule, perhaps pinnulet as well, are an absolute necessity. It is a vexed question as to which course to pursue. To use general terms means vagueness to the specialist; to employ technicalities is to puzzle and probably alarm the outsider, whom it is the desire to tempt into the fold. There is an honoured place for any genius who may arise capable of bridging over the gulf between the two in this and other matters in a manner satisfactory to both.

Mr. Schneider clearly recognises the necessity for, and the delicacy of, the task. His plan of smoothing the path of the beginner by adding the English meaning of Latin specific names no one will object to except those who are encouraged to rise superior to the necessity for it

by the possession of some more or less superficial knowledge. But it would not be surprising if the author's next compromise (albeit following a respected precedent) were cavilled at by some. He drops the term "pinnule," and substitutes for it the word "leaflet," as appealing "most directly to the mind of the reader little versed in botanical terms." Our sympathy for the latter class is too warm for us to turn a deaf ear to Mr. Schneider's reasoning. There will be many, however, whose sense of propriety will be too severely outraged to permit of their looking upon the step in a work of so high a character without uneasiness.

Mr. Schneider divides the cultivated Ferns on which he treats into ten sections—namely:—(1) Tree Ferns; (2) Gigantic Non-arborescent Ferns; (3) Small-growing Ferns; (4) Ferns with coloured or tinted fronds; (5) Variegated and Crested Ferns; (6) Gold and Silver Ferns; (7) Climbing, Trailing, and Drooping Ferns; (8) Filmy or Transparent Ferns; (9) Viviparous or Bulbil-bearing Ferns; and (10) Curious Ferns. The course of chapters devoted to general information on these sections forms a highly interesting and valuable opening to the book. The particulars of their habitats and management provide a fund of readable and instructive information; moreover, each chapter is closed by a select list of species and varieties. A few quotations from the chapter on variegated and crested Ferns will clearly show the interesting nature of the contents of all. In relation to the crested Ferns, the author, after dealing with the variegated ones, says:—"It has been clearly demonstrated that variegation is a form of variation possessed almost exclusively by Ferns of exotic origin. Cristation, on the contrary, is a form of variation to which European Ferns appear much more predisposed than exotic kinds, for there is scarcely a British species which has not produced crested forms, from the dwarf Asplenium Trichomanes to the gigantic growing Pteris aquilina, or common Bracken.

"In exotic, as in native species of Ferns, cristation consists in the subdivision—in some instance many times repeated—of the extremities of the fronds, by which process a sort of tassel is naturally formed. At other times the cristation is only shown by the bifurcation of the tips of the fronds; but it is interesting to note that, whatever form this character assumes, it generally extends to the pinnæ, which are usually affected in the same manner, though in a lesser degree, as the extremity of the frond itself. Another point which is worth noticing is that the stalk of the frond is seldom, if ever, affected by simple cristation. The abnormal character of the stalks, which occasionally become fasciated or flattened and branched out, is only shown when cristation, by infinite division of all parts, is developed to such an extent as to produce instead of a flat normal frond, either a ball-like mass of green vegetation or an intricate and symmetrically divided sort of latticework.

"Crestation—'monstrosity' as it has sometimes been called—is, when shared by exotic kinds, in the majority of cases constant, as plants partaking of it reproduce themselves freely from spores with very little variation. Such, however, is not the case with British Ferns, as many of them have a tendency to revert to the common or typical form when some peculiarities in their treatment do not agree with them. It is also well known that not only do some of these crested forms revert to the type, but the offspring of these are in many cases extremely variable. Such inconstancy plays an important part in the production of new varieties, as it is now an accepted theory that when the common form has once varied the produce of this variation have a greater tendency to vary again. In the case of the propagation of a specially fine crested form being required, this can only be effected with security by the division of the original plant.

"The variation by way of seedlings in connection with crested Ferns is of such importance that we trust it will not be considered out of place here if we quote Mr. Drury's experience on its reproduction. Speaking on this most interesting subject, Mr. Drury, in a most elaborate article on variation in his excellent work on 'Choice British Ferns,' says "We have ourselves raised a very robust and heavily crested form of Hard Fern (*Lomaria spicant*) from a wild find of similar character, but of smaller growth. Strange to say, the sowing from which this splendid plant originated was so nearly a failure that only the one plant resulted, which, as stated, surpasses the parent; yet when spores of this more marked variety were sown fully 90 per cent. were absolutely common Hard Ferns, two only closely resembled the parent, one far surpassed it, several are of a different type of creasing, one is extremely dwarf, with fronds absolutely fan-shaped, and between these and the common ones there is every grade of creasing, from merely squarish tips to ball-like tufts."

"The foregoing statement, emanating as it does from such a high authority on the subject, and being the result of a series of careful experiments, conducted with a view to ascertaining the constancy of seedlings will, we venture to say, prove conclusive as to the amount of reliance to be placed on the reproduction of crested variations by their own spores. But these remarks apply exclusively to British Ferns. The reproduction of crested exotic kinds is principally effected by seedlings, and generally speaking with most satisfactory results."

Want of space forbids our quoting Mr. Schneider's remarks on the crested exotics which followed those given in the foregoing passages. He passes from them to practical matter pure and simple. The first chapter is devoted to the subject of drying Fern fronds, on which some useful information is given, and the second to fertilisation and propagation. Technical though the latter is it is of the deepest interest, and it is probable that not only botanical students, but general readers as well, will find them worthy of careful consideration. Fern growers in general will not fail to carefully study the long

*The book of choice Ferns: by George Schneider. London: L. Upcott Gill, 170, Strand, W.C.

and exhaustive chapters on culture, while those which follow on "Fancy Ways of Growing Ferns," and "Fern Foes, British and Exotic," are little inferior in interest or value. The next chapter opens the descriptive portion of the book. *Acrostichum* is the first genus taken, and it will give a general idea of the course pursued throughout to indicate the method of considering this genus. A brief general description is first given, then the various groups enumerated in the genus are indicated; culture forms the third point, and finally the principal species and varieties are dealt with. One quotation will serve to show how all are treated. "*A. (Polybotrya) acuminatum*, Pol-yb-ot'-i-y-a ac-u'-min-a'-tum (taper-pointed) *Hooker*. On account of the drooping character of its light green fronds, of a firm texture, which are abundantly produced from a thick climbing rhizome (prostrate stem) this Brazilian stove species may be considered one of the most decorative kinds comprised in the genus. The barren fronds, borne on firm, erect stipes (stalks) 4 to 6 inches long and scaly throughout, are from 1 foot to 2 feet long and fully 1 foot broad, deltoid (in form of the Greek delta Δ) and simply pinnate (divided to the midrib), with their upper pinnae (leaflets) slightly lobed, truncate (terminating abruptly) on the lower side at the base, 6 to 8 inches long and 4 to 6 inches broad, usually furnished with small pinnules (leaflets) on each side. The fertile fronds are 1 foot long, deltoid, and thrice pinnate. *Hooker, Species Filicum*, v., page 245. *Nicholson, Dictionary of Gardening*, i., page 19. Although its fertile fronds are said to be sub-quadrupinnatifid (four times nearly divided to the midrib) at the base, the Peruvian *A. (Polybotrya) nutans*, *Kunze*, appears to be closely related to this species."

It will be seen that Mr. Schneider is not afraid to employ abundance of explanatory English terms in order to make the meaning clear, and the plan adopted is a distinctly educational one. The first volume, which consists of 660 pages in bold type, and is enriched with many good plates and engravings, takes the work up to and inclusive of the genus *Asplenium*. If completed, as there is no reason to doubt that it will be, in the same thorough, comprehensive and careful manner, it will be a standard work of reference, invaluable alike to advanced growers and beginners. Mr. Schneider is to be congratulated on performing a long and difficult task with signal success.



NATIONAL CHRYSANTHEMUM SOCIETY.

THE General Committee of this Society held a meeting at Anderton's Hotel last Monday evening, Mr. R. BALLANTINE occupying the chair. Several business preliminaries, in the way of minutes, correspondence, &c., having been disposed of, the Secretary announced that Mr. A. Taylor had made an interesting report concerning the cut blooms staged on the occasion of the November Show. Altogether there were 2163 cut flowers shown, of which 1134 were Japanese in 142 varieties, 642 incurred in 75 varieties, and the remaining 387 consisted of reflexed, Anemone, Japanese Anemones, and Pompons. The most popular varieties being a matter of some interest, it may be mentioned that in the Japanese section *Avalanche* was shown 84 times, *Vivian Morel* 68, *Sunflower* 62, *E. Molyneux* 47, *W. H. Lincoln* 45, and *Etoile de Lyon* 40. The leading incurred were *Princess of Wales* 47, *Empress of India* 40, *Lord Alcester* 39, *Jeanne d'Arc* 31, *Queen of England* 31, and *Lord Wolseley* 28.

THE BEAUTY OF EXMOUTH CASE.—AS WE WERE.—The report of the Sub-Committee appointed to inquire into charges made some time since against a member of the Floral Committee was then received, and considerable discussion arose upon it. The resolution passed by the Sub-Committee, and published in the *Journal of Horticulture* on 3rd November, was referred to, since which it was stated that the person implicated, whose name had been confided to the Sub-Committee, had made a sworn statement denying many of the main facts in the charge made by Mr. Godfrey, and after taking legal advice the Sub-Committee considered it was not incumbent on them to publicly make known the person's name, as they might incur an action for libel, and that it was for the *Journal of Horticulture*, where the charge appeared, to do so. Their decision had been communicated to the Editor, and he had refused to publish it.

MR. RUNDELL did not regard the report as satisfactory, the name of the member ought to be mentioned.

MR. ADDISON went into the matter at great length, commenting upon the conduct of the Sub-Committee, and saying he should oppose the adoption of their report. He thought such charges as this detrimental to the Society, and considering the length of time that had elapsed, that the matter should have been satisfactorily dealt with. If they had secured a sworn statement from one party, had an opportunity been given to the other to corroborate or dispute any fact called into question? Again, had inquiries been made as to whether the member was the kind of man to do such a thing? There was another charge contained in a letter against a member, and Mr. Addison was proceeding to remark upon this, but was ruled out of order.

MR. JUKES said he was not less careful of the good name of the Society than the preceding speaker. The way in which the charge had been made rendered it very difficult for a Committee to meet. It was easy to say the Society could deal with the member, but he gives an answer upon a sworn statement that the charges are untrue. If they attached his name to the charge they laid themselves open to an action, and as the charge was made by the *Journal* the least the Editor could do was to take the responsibility on his own shoulders. The Committee had asked for the name to be published; up to the present it had not been, and in the face of the sworn statement they would not incur the risk of an action by attaching the member's name publicly to the charge. If that were published they could deal with the question more fully; until then they could do nothing.

MR. FOWLER spoke on the importance of such definite charges being cleared up. He thought if the member waived any legal rights and came before the Committee, and Mr. Godfrey were asked to come too, the Committee could deal with the case. He was afraid outsiders would consider the question shelved, especially as the Committee's letter to the *Journal* was not made public.

In the end the report was adopted.

A MEMBER CONDEMNED.—Another complaint against a member was then brought forward, and a resolution passed condemning the member against whom it was made.

SHOW BOARDS AS HITHERTO.—A discussion of some length ensued upon the question of enlarged show boards, the Schedule Sub-Committee recommending the regulation to remain as hitherto. Against the proposal was urged the expense, also the probability of many exhibitors and affiliated societies withdrawing if made compulsory. Mr. Jukes, Mr. Fowler, Mr. Gibson, and Mr. Rowbotham were the principal speakers on the subject. The Foreign Secretary was strongly of opinion that cut blooms were intended to be shown as individual specimens of good culture and not as collections. The present boards were not of sufficient dimensions to enable the blooms to be examined properly, and he moved as an amendment, "That the resolution passed at the Conference be put into force at all the shows of the N.C.S. in the open classes for Japanese cut blooms." The amendment, however, was lost, and the view held at the Conference has therefore had no practical effect.

Two provincial and three colonial societies were affiliated. The dates fixed for the 1893 Shows are as follows:—11th, 12th, and 13th October; 7th, 8th, and 9th November; 5th, 6th, and 7th December. It is not intended to hold a September one, but a sum of money will be set apart to provide prizes at a show held in that month by the Aquarium Company.—(Communicated).

[After Mr. Fowler's suggestion it may be expected that the nameless member will hasten to "waive his legal rights" and welcome an opportunity for a full examination of himself and Mr. Godfrey, with such witnesses as either can produce for enabling the examining committee to arrive at the true facts of the case. Is Mr. Godfrey willing to act in accordance with Mr. Fowler's sensible and practical proposition?]

NATIONAL CHRYSANTHEMUM SOCIETY.

I CAN only express my regret if the phraseology of my last letter did not please Mr. Dean; but passing over that, and fully allowing every statement which he makes, the undeniable fact still remains—that the Society, though called "National," is entirely governed and managed by the metropolitan section, the provincial growers being only directly represented by one member out of the total of fifty-seven forming the two committees. That this is a matter for regret will, I think, be generally admitted, and I think also that a far-sighted executive should endeavour to remedy the evil, even if caused by the apathy of those who ought to be most interested, as the stability of any erection depends to a certain extent upon the width of the base bearing proper proportion to its height, and neglect of the principles of construction is usually followed sooner or later by ruin.—CHAS. E. PEARSON.

IN answer to Mr. Pearson's comments I notice that Mr. Dean (page 480) takes exception to the terms used by Mr. Pearson, as "London clique" and "metropolitan exclusiveness," and he also invites Mr. P. to inquire a little more closely into the methods of the N.C.S. I have taken the hint meant for Mr. Pearson. Can Mr. Dean inform us how it is that so many really good Chrysanthemum growers who do not reside in London, are not on the Committee, or even in touch with the N.C.S., although their hearts are in the cause of the Chrysanthemum? Mr. Dean invites an investigation of the doings of the N.C.S. I, with many others, will be glad to learn what is likely to be the result of the investigation, by the Sub-Committee, into the "Beauty of Exmouth" case? The Society cannot intend to drop the matter as if it was a "bot coal." The Sub-Committee, according to Mr. Godfrey's statement, has the name of the person charged with the irregularity; then what, may I ask, would be gained by making such letter public? Is it right to treat such a charge with indifference? Then, as to the letter published by Mr. Wells, can it be true that a member of the Floral Committee is allowed with impunity to utilise his power as a Committeeman to collect his debt? Shall this be tolerated by a "National Society?" and are these the methods which Mr. Dean is so proud of? How comes it that several of the judges who adjudicate on the principal claims are Committeemen, and also members of the Floral Committee? Is this a "National" method? We in the country prefer to have judges from a distance, and outside our provincial society. Pray do not think I

insinuate anything against the judges of the N.C.S. exhibits. It is not the men, but the principle, that does not seem to rest on a national basis, thereby comes the suggestion of "cliqueism." When Mr. Dean has answered these questions, with your permission I will ask him more.—HENRY HAVELOCK.

BOLTON CHRYSANTHEMUM SOCIETY.

WE are informed that the Committee of this Society have arranged for the next exhibition to be held in the Town Hall on November 17th and 18th of next year, and have appointed judges for the same.

CHRYSANTHEMUMS AT HULL—JOHN LAMBERT AGAIN.

YOUR report of the Hull Chrysanthemum Show states that Golden Queen of England was awarded the prize for the premier incurved bloom in the show. In justice to the Committee of N.C.S. (who after a second year's trial gave the sport John Lambert a first class certificate) I desire you to state the real facts of the case. At Hull Golden Queen of England, mentioned as the premier bloom in the show, was staged and labelled by the exhibitor as John Lambert. Someone crossed out the original name and substituted that of Golden Queen of England, a proceeding I feel sure will meet with the condemnation of exhibitors generally, and is altogether without precedent. Perhaps Mr. Molyneux as one of the judges present will kindly give a correct version of the matter.—JOHN LAMBERT, *Powis Castle Gardens, N. Wales.*

THE N.C.S. AND THE WESTMINSTER AQUARIUM.

I HOPE it may be possible, just now that the National Chrysanthemum Society is being referred to in your columns, to suggest that it is worth while striving to elicit some expression of opinion as to the retention of the Society's Shows at the Royal Aquarium. Let it be said at the outset that the position of the Society is fully recognised in relation to the Aquarium Company, also that the Aquarium is one of the most central of places in London. The latter is, perhaps, its chief recommendation. The entertainment monopolises always the best portions of the Show days, and by far the best portion of the floor of the hall, so that the floral portion of the Exhibition is cut asunder by a seating space and a large crowd, through which it is very difficult for those anxious to see the flowers to pass. The consequence is that whilst the Show loses immensely in its effect, very much of the most interesting material is relegated to the gallery, to which only 10 per cent. of those visiting the Exhibition find their way. But these are not the worst feature. The exigencies of the association with the Royal Aquarium Company seem to render a series of three-day Shows necessary. How poor in value are plants, flowers, or fruits, after such long exposure in such a vitiated gaseous atmosphere, and in such a smother of dust as is created. But the worst element of discomfort to many is composed of what may be described as crush, crash, and noise. Real Chrysanthemum lovers do not appreciate music and shouting that drown their voices as they vainly try to discuss the merits of the blooms; then there is the notoriously bad light that positively forbids the full beauty of the flowers being appreciated. I have spoken to scores of members on this subject, some of them prominent ones, yet I have never met with one but did not admit all that is complained of, and fail to find good excuse.

No doubt the directors do all they can to accommodate the Society, but all the same every year shows that the floor area is more and more encroached upon, and the executive of the Society have to put up with it. We are told that were the Shows apart from the entertainment, the public would not patronise them. That has to be proved, and it might be found that if some who now visited the Aquarium would not go to a quiet hall, hundreds of people who detest a noise would go to see the flowers. The records of the Cattle Show at the Agricultural Hall show that the public will patronise a pure Show when they know of it.—ALPHA.

ROYAL HORTICULTURAL SOCIETY.

DECEMBER 13TH.

SCIENTIFIC COMMITTEE. — Present: Dr. M. T. Masters (in the chair); Prof. Oliver, Prof. Church, Dr. Müller, Dr. Bonavia, and Rev. G. Henslow, Hon. Sec.

Garden Labels.—With reference to the value of leaden labels, Dr. Masters observed that some of the same date, about 1774, as of those described at the last meeting, were still on garden walls at Gunnersbury. Dr. Bonavia observed that in India he had found porcelain or china labels with the name burnt in to be the most serviceable.

Abies Smithiana.—Prof. Church observed that a fine tree existed at Shelsley Court, which in 1849 was about 120 or more feet in height. According to Paxton, this species was introduced from Kamaon in 1818, so that it was probably one of the earliest examples.

Malformed Orchid.—Mr. O'Brien sent a flower of *Cypripedium Chamberlainianum* having one of the petals standing above the lip in lieu of a sepal, a not uncommon occurrence.

Arbutus procera.—Flowering sprays of this species were sent by Mr. G. Lee from trees, of which there were three stretching to a length of about 22 feet each. At 1 foot from the ground the trunk of one was 3 feet 6 inches in circumference. The trees were planted about forty years ago. They flower profusely, but never bear fruit. He observes that this species is not cultivated so often as it deserves to be.

Grindelia inuloides.—A flowering stem of this plant was forwarded by Rev. C. W. Dod. It is figured in the "Botanical Magazine" t. 3737.

Peas Attacked by Mites.—A specimen of earth containing mites, which have proved injurious to Peas, was received from Mr. McDonald, of Jura Forest, Greenock. They were forwarded to Mr. Michael for further examination.

Dendrobium Findleyanum, pseudo-bulb.—Sir Trevor Lawrence sent a bifurcating branch of this Orchid. He observes that "Dendrobium bulbs often make side shoots from the 'eyes' at the apex of each segment, but this example seems to be a true bifurcation, due it would appear from the bend in the branch to some arrest of growth by a wire or another bulb." A microscopical examination appeared to confirm the above view, for the stem was single at the base, but a slight constriction began on one side, then a second appeared on the opposite side, higher up, until they deepened and met, thereby dividing the single stem into two.



NATIONAL ROSE SOCIETY—VOTING BY PROXY.

INDIVIDUALLY, I regretted that both Mr. Pemberton's proposal as to altering the date of the Metropolitan Show of the National Rose Society (reported by you on page 536) and Mr. Foster-Melliar's proposition to allow members to vote by proxy, were negatived last Tuesday. I hope, however, they may be proposed again next year. There may be rosarians whose counsels might be very valuable to the interests of the National Rose Society, while it seems to me very unreasonable to put them to the trouble and expense of coming from Ireland, Scotland, or Wales to vote when it could be done for a penny by naming a proxy in a letter.—F. H. GALL, *Hitchin.*

CÉLINE FORESTIER.

MR. DUNKIN, page 349, rightly observes that Céline Forestier is a valuable hardy Rose. We have several very large trees which have been planted over twenty years against the terrace walls with a south-east aspect, fully exposed, and these have never had any protection in winter other than a mulching of short manure about the roots. The trees have annually produced a successional crop of useful blooms, of which we have a good supply at the present time, as you will see by enclosed buds.—JOHN CHINNERY.

[The flowers sent were remarkably fresh and fragrant for the time of year.]

MADAME FALCOT.

ANOTHER good Rose which I should advise anyone to add to Mr. Dunkin's list if they are forming a collection is Madame Falcot. I had a tree of it planted on a south-east wall in Monmouthshire, which grew well and produced a plentiful supply of well developed buds of a good colour. The foliage of this Rose is very ornamental, assuming in a young state in the autumn a dark colour, which produces when used for buttonholes or for other purposes a pleasing contrast to the bud. Whether for private use or for growing for market this is a most valuable Rose, as it readily sells on account of its pleasing colour.—J. C.

ROSE JUDGING AT N.R.S. EXHIBITIONS.

THE National Rose Society is to be congratulated on its almost perfect system of judging at the various exhibitions held under its auspices, the rule being "that successful exhibitors only shall be permitted to act as adjudicators;" and whilst I should be sorry and very wide of the mark to say that they alone are able to properly make the awards, it is well that the judging can be done by those who are successful growers and exhibitors. That portion of the community who spend the greater part of their leisure amongst Roses (and they are an important portion, embracing clergymen, lawyers, doctors, and intelligent tradesmen of various pursuits), and who are ever and anon occupying the "pride of place" at the N.R.S. Exhibitions, are well qualified for this somewhat arduous though exceedingly pleasant and important duty, as also are they who make Rose growing a study for trade purposes.

Of late years the disappointed Rose exhibitor has almost ceased to exist. So conscientious and careful are the Judges in their work that the exhibitors most cheerfully accept as their due the piece of cardboard which indicates their position, be it first, second, third, or fourth. Many are the stories that could be related of disappointed exhibitors, some of whom have buttonholed the unfortunate Judge, and "had it out" with him then and there; others have rushed into print, and fought out their battle by the aid of a free Press. To-day a better feeling seems to pervade; all, more or less, resemble the gentleman who, upon being told he was "nowhere" to-day, and asked if he considered the judging correct, calmly replied, "I never question the decision of the Judges." The system of selecting adjudicators from the roll of successful growers is an excellent one, and it is to be hoped there may never be a lack of willing spirits to undertake this most important item in the programme of Rose exhibitions.

There are, however, one or two matters that might receive even more attention than has hitherto been bestowed upon them. One is that the judges selected be asked only to take part in judging classes similar to

those they compete in, for may not grave mistakes occur if those who are growing, say, only 300 or 400 plants be required to give their assistance in the most important classes? Those very growers may have the necessary love and enthusiasm, do they also possess the requisite judgment? Which, I venture to say, comes only with long experience. Their knowledge of the vagaries of a certain variety may be restricted to perhaps the cultivation of less than half a dozen plants.

Another matter that demands most careful thought and attention is the consideration of the new varieties that are presented year by year "for the opinion of the Judges." Ought there not to be two or three good Judges set apart for this important work who may immediately commence upon their "labour of love" whilst the sweetness and freshness the exhibitor has laboured so hard to retain still lingers lovingly in each petal? At Chester this important piece of work was left until nearly two o'clock; each unsuccessful variety would have come better through the ordeal had judging commenced at eleven o'clock. The "best phase of their beauty" was passing away every hour from eleven to two; nearly three long hours dragged their weary length along before those properly authorised to make the awards commenced to critically examine them. A recurrence of this kind must surely be avoided.

There is also one other matter worthy of passing notice, namely, the manner in which the premier blooms receive their awards. Would it not be better to empower each set of judges to select a "likely candidate" from the classes they judge, and when the various stands are judged to allow these candidates for premier honours to be staged on a suitable stand, and at least twelve "good men and true" decide which bloom shall blushing carry off the "blue riband?" This most interesting award is apt to lose its charm if the making of it falls to one who allows himself to be hurried, or who happens to have a favourite variety. A Boieldieu has won it, also a Pierre Notting, and rightly so too if each possessed the requisite quality. "Honour to whom honour is due." I regret that more than once have I heard expressions of disappointment uttered by the public when, after long searching, they have at length found the bloom that has won the coveted position and medal. Nor has there always been a consensus of opinion amongst the "doctors" respecting this award. In my opinion no reasonable amount of labour should be withheld to make this important and interesting selection a satisfactory one.—E. R. SHANKS.

[The above notes were in our hands prior to the publication of our report of the N.R.S. annual meeting on page 535 last week.]

HARKSTEAD, SUFFOLK.

It was in the very early part of last year that I first made acquaintance with that almost insular portion of Suffolk county in which Harkstead is situated. I write "almost insular," for it is bounded on three sides by water, and its base is the straight bit of railway joining Ipswich and Manningtree. On the north we have the picturesque tidal river Orwell. On the east the German Ocean. On the south another tidal river, one of the numerous Stours of England. A glance at the map will at once show the exposed situation of this prominent corner of East Anglia, while a drive from Ipswich to Harkstead (seven miles) in the face of a blinding snowstorm, and the thermometer down to 12° Fah. gives the traveller a fairly practical experience of what is not uncommon weather in this part of England in the winter months.

My second visit to Harkstead was at the beginning of July; it was a lovely day, so in order to avoid the dusty roads I took the steamer at Ipswich, disembarking at Pin Mill, the half-way house to Harwich. This river trip is very delightful, and the scenery as you pass between Woolverstone and Orwell Parks is delightful, the woods and walks extending to the margin of the river on each side. Woolverstone Hall, the seat of Charles Hugh Berners, Esq., stands in a well wooded park of upwards of 400 acres, while in Orwell Park on the opposite side of the river is the seat of Capt. E. G. Pretymann. Pin Mill, where I landed, is a very picturesque little fishing village, and in the summer the place is lively with yachts. Some years ago no less than thirty boats were constantly engaged here dredging for Septaria, but only half a dozen are now so employed. Some of the readers of the Journal may be puzzled to know what is meant by the word "Septaria." They are spheroidal masses of argillaceous limestone, according to geologists, while the Zoological septaria are a genus of acephalous molluscs. The Orwell septaria is supposed to produce the finest quality of Roman cement. Pin Mill is about two miles from Harkstead through the village of Chelmondiston, where there is a telegraph office. Taking the path across the well-cultivated fields (for in this part of Suffolk is to be seen really good farming—the farms are large, the farmers men of capital) I soon see the tower of Harkstead Church standing like a sentinel on the high land between the two rivers. In a few minutes I am at the Rectory—but the rector is away. Away! Why, naturally, for this is the first Saturday in July, and, of course, he is at the Crystal Palace winning prizes at the National Rose Society's Show. My first impulse is to rush into the garden, but as I remember that I am to stay here until Monday, I rest awhile after my walk under the hot sun and enjoy five o'clock afternoon beverage.

The Rev. Hugh A. Berners has been before the Rose world as a very successful exhibitor for many years. He, together with the Revs. A. Foster-Melliar and F. Page-Roberts, are the East Anglian amateur champions. But it must not be supposed that Harkstead is famous for its Roses only. For instance, walking through the Hall we enter the conservatories: splendid structures, and full of flowers all the year

round. The Rector will not be without them; the demand is made, the gardener must find the supply, and the gardener's work would appear to be simple, judging by the result, for the flowering plants are constantly being changed, and there is everything beautiful in its proper season. What a mass of bloom was there last spring! Beautifully grown Arums, Spiræas, Tulips, Hyacinths, Azaleas (splendid), Carnations, Narcissi, Freesias (grandly grown), Tea Roses, Lily of the Valley, and pots upon pots of Gladiolus The Bride. These and many other flowers, gracefully interspersed with *A. cuneatum*, *gracillimum*, and *farleyense*, were indeed a joy to behold.

Leaving the conservatories we walk through the Orchid houses. Among the *Odontoglossums*, 100 in number, one noticed as being good *Alexandrae*, triumphans, *Rossi majus*, and *Pescatorei*, while the *Phalænopsis* were well represented by vars. *amabilis*, *grandiflora*, *Schilleriana*, *Stuartiana*, and others. *Dendrobiums* are evidently in favour at Harkstead, some of the varieties flowering beautifully, especially *albo-sanguineum*, *thyrsoflorum*, *Parishi*, *crassinode*, *Ainsworthi*, *Findleyanum*, and *Dearei*. Among the *Cattleyas* I noticed especially *crispa*, *Lawrenceana*, *Harrisoniana*. *Cypripediums* *Spicerianum*, *vexillarium*, *Stonei*, and *Lawrenceanum*. *Pleione humilis* and *Lagenaria* were also good.

Opening another door we find ourselves in the first vinery, the staging of which in February was crowded with many hundreds of



FIG. 74.—REV. HUGH A. BERNERS.

bedding plants. The Vines in July were carrying grand crops of splendid bunches. Another newer and very large house with every modern improvement is divided into two portions—a vinery and Peach house. These younger Vines gave proof of Mr. Berners' gardener's skill. *Madresfield Court*, *Gros Maroc*, *Alicante*, *White Tokay*, *Black Hamburgh*, and *Foster's Seedling* are grown. In the Peach house *Noblesse* was the best. Perhaps the palm must be given to the *Nectarines*. The previous year no less than fourteen dozen grand fruit had been gathered from a trained tree of *Violette Hâtive*, while *Pine Apple*, *Lord Napier*, *Pitmaston Orange*, and *Elruge* were carrying as much fruit as they should. I was much struck with the clean wood and foliage. In the spring this house was utilised for Tea and H.P. Roses in pots.

But it is time now to go outside and examine the Roses. The soil in the upper garden is not what we call a Rose soil; it is too light, and the slope towards the south is so steep that any heavy rain rushes down into the little stream at the bottom of the garden, carrying with it much of the goodness of the top-dressings. But on the further side of the stream, quite in the valley, a real Rose soil is to be found; but being quite in a hollow, the position is apt to be flooded and affected by the spring frosts. Mr. Berners is a great believer in protection—that is, so far as his Roses are concerned. He puts his Teas to bed in the winter, both standards and dwarfs. The heads of the standard Teas are carefully bound up thickly and firmly with clean dry straw, so thickly that the wet cannot permeate and cause anything like sweating. Whether so much protection is really needed I know not; but he can tell us that the proverb, "the proof of the pudding is in the eating," holds good in this instance, for no exhibitor in England has won more if as many prizes for Teas the past two years in proportion to the number of plants grown. In all these are but 500 Teas. The H.P.'s number about 1800, and many of these are not what I should call exhibition varieties.

Among the H.P.'s, on the strong soil, *Duke of Edinburgh*, *Eclair*, *Ulrich Brunner*, *Capt. Christy*, *Madame G. Luizet*, *Mrs. J. Laing* made excellent growth, *G. Luizet* being pruned on the "long" system, and that with remarkable success. The standard and half-standard Teas, however, excite most admiration. On a sheltered border outside the Orchid houses there are some magnificent examples of *Madame Lambard*, *M. Niel*, *The Bride*, *Comtesse de Nadaillac*, *Catherine Mermet*, *Ethel Brownlow*, and *Madame V. Houtte*. There is one variety of *Rosa indica odorata*, which grows and flowers magnificently at Harkstead Rectory. I allude to *Innocente Pirola*, and this on standards. Among the newer ones I noticed grand plants of *E. Metz*, *Madame Hoste*, while *Cleopatra*

and Princess of Wales produced large, full, and perfect flowers. Mr. Berners keeps cows—beautifully bred Jerseys I think they are; and the manure from his little farmyard is just suited to the character of the soil. Hard pruning is the rule, the heads well thinned out, and this with the natural result—well-ripened firm wood.

On the S.E. side of the Rectory, which is beautifully situated, are three terraces, leading down to the Italian garden, which should have been a blaze of colour when I last saw it; but it had been under water, or rather under mud and water. We who live in East Anglia are not likely to forget that awful storm on the night previous to the Ipswich Rose Show. The wall of the terraces are clothed with Ampelopsis Veitchi, choice Ivies, and Tea Roses; while the beds on the Italian garden are filled chiefly with Tuberous Begonias and Ivy-leaved Pelargoniums. Beyond these beds are banks of Rhododendrons, Azaleas, and Lilium auratum, revelling in the prepared peaty loam. Some very fine specimens of shrubs and Conifers give a pleasing finish to this interesting garden.

The kitchen garden is highly cultivated, quality being the first consideration. In spite of the light soil the Strawberry beds yield heavy crops of fine fruit, the four varieties relied upon being Noble, Keen's Seedling, Garibaldi, and British Queen. Oh! that the quality of this last could be had together with the constitution and cropping qualities of some other of our Strawberries!

Of late years Mr. Berners has launched out strongly in another direction in order to satisfy his love for flowers; for five consecutive years has he won first honours at Ipswich for Chrysanthemums in groups, besides many first prizes for cut flowers, Japanese and incurved. In November, 1890, he boldly attacked the Royal Aquarium stronghold, and came back to Harkstead winner of the first prize for thirty-six. In all about 200 plants are grown, a few among the many special favourites being Viviani Morel, W. H. Lincoln, Lilian Bird, Edwin Molyneux, Etoile de Lyon, Gloire du Rocher, and Beauty of Castlewood.

I forgot to mention the Gloxinias. Veitch's erect strain are the only ones grown, and they are cultivated in very considerable numbers. The gardener is very proud of them, and he has a right to be. Of Cucumbers Veitch's Perfection is the favourite; Tomatoes, Ham Green and Perfection; Melons, Countess, Read's Scarlet Flesh, and Denham Beauty.

Finally, Who is the gardener, and what is his staff? To have won 500 prizes in twelve years is an achievement! Most of the exhibitors and their gardeners in the larger amateurs' classes at the home, southern, and East Anglian Rose Shows know and respect genial, kind-hearted, and unselfish George Jordan. He is a thorough gardener in all its branches, equally expert in the use of the spade as in the propagation of the tenderest of stove plants. Not afraid of work, and withal, loving his craft, systematic, quick, but sure, he, and a most excellent under gardener, with a small lad thrown in, do the whole work. It is clearly evidence of the saying that perhaps more and better work is done when the staff is rather under than over-handed. Robert Rush, Jordan's right hand, has the cows and farmyard to look after as well.

To my mind Harkstead Rectory gardens are a great credit to all concerned, from the master who loves his flowers and is proud of his gardeners, to the small boy who can gather Strawberries all the afternoon without eating any himself; for the moment he stops whistling Ta-ra-boom-de-ay, or some other equally classical melody, Jordan looks round to see what's the matter.—JOHN HOPPER.

[We have pleasure in inserting a small portrait of the "master" and accomplished amateur gardener, the Rector of Harkstead.]

FRUIT—A PLETHORA OF VARIETIES.

HAVING seen Mr. Watkins' collection of 270 dishes of distinct varieties of Apples at the Hereford Show, I can corroborate all that he says on page 538 of the *Journal of Horticulture* relative to the collection being educational as well as effective. I am sorry some award was not made in recognition of its value. At a London fruit show a medal would have been awarded to such a collection. Mr. Watkins is to be thanked for helping to make the first Herefordshire Fruit Show a success, and no doubt when the Society is well supported by subscriptions collections like Mr. Watkins' will receive their reward.

Considering the different requirements of people I do not think that nurserymen are to blame in offering to the public a long list of varieties of fruit. It is well known that some sorts will do well in one place, but not in another. I like to have my Keswicks, Cellinis, Tom Putts, Blenheims, Mère de Ménages, Dumelow's Seedlings, and King of the Pippins in plenty; but at the same time I like to have my experimental quarters, where new sorts can be grown and their qualities as to cropping and flavour tested on different soils, not for my own satisfaction alone, but for the benefit of the general public. Profitable fruit culture for market, as your correspondent remarks, is best limited to a few select free cropping and well coloured varieties, be they local or otherwise, and known to suit the soil in different districts; but let us not discourage the production of new varieties of Apples any more than of any other fruits while retaining our old well tried favourites.—JOHN CHINNERY.

PERHAPS there are too many sorts, but no one is compelled to grow them all. And if from so many it is difficult to make a best selection, at least it might be found, were the numbers limited, that some selections would not suit various soils or situations, and the larger the area of selection the greater probability that all soils and situations can be suited. I very much doubt whether any half dozen of nurserymen who

grow their tens of thousands of trees, in various parts of the country, would agree on any best selection, and it would no doubt be the same so far as private growers are concerned. Apples vary so much in different places that a wide range of selection is essential. It is those who, having tried new or hitherto unknown sorts, find them of poor quality and value, yet continue to grow them, who are to blame. The nurseryman would gladly cut down his ponderous lists if he could, but so long as certain sorts are asked for they must be furnished. If the trader has to decline an order because he has not all or only a few of the sorts wanted, the customer goes elsewhere, and probably never returns. The trade must not be blamed for what they cannot help. They are the purveyors to the public, and not censors. The very best that can be done in each locality or county is to advise what sorts are found to thrive best, and publish lists of such for the information of planters. Any who still persist in growing worthless sorts then have only themselves to blame. It is very often needful to point out that for market sale some sorts are more suitable, whilst for ordinary domestic use and keeping a long season others are better. It will take twenty years yet to purge our gardens and orchards of worthless varieties, and even then some now esteemed sorts may be then thought but second-rate. We are increasing our stock of Apples almost rapidly. New ones come into commerce more readily than old ones are expurged. The more Apple knowledge is spread the easier will it be for growers to determine which only are the best varieties for their purpose.—A. D.



FRUIT FORCING.

Peaches and Nectarines.—*Earliest House.*—The trees must not be syringed after the blossoms show colour, but a moderate moist atmosphere should be maintained by damping the paths and borders in the morning and in the early part of the afternoons of bright days. Maintain the temperature at 50° to 55° by day, with an advance from sun heat to 60° to 65°, but not without complete ventilation, 50° being sufficiently high for the night. If the weather is cold and sharp, the temperature may fall to 45°, or during severe frosts to 40° at night, which is more advantageous than a higher and drier heat. The house should be freely ventilated when the weather is favourable, especially when the blossoms show the anthers clear of the petals; avoiding cold draughts, however, but admit a little air constantly by the top lights. Houses that have innumerable "chinks" of air may remain closed in stormy weather. The temperature, however, must be raised early in the morning to 50°, and be kept between that and 55° through the day; but 55° must not be exceeded by artificial means, nor an advance allowed above it without a free circulation of air, and it is not a good plan to "bottle" sun heat at this stage. A close moist atmosphere favours growth more than the setting of the fruit. Under favourable climatic conditions the pollen is dispersed in golden showers (clearly visible in the sun) when the day is bright and ventilation has been attended to early, and the "set" is generally a favourable one, even without artificial fertilisation. The trees or trellises, however, may be sharply shaken every day from the first pollen on a tree becomes ripe until the latest flowers thereon have cast their petals. A plume of Pampas Grass drawn over the blossoms lightly scatters the pollen, or a rabbit's tail mounted on a small stick may be similarly used. A camel's-hair brush passed over pollen-laden anthers and applied to the stigma of each flower is, however, the most certain method of artificial fertilisation, operating after the house has been ventilated some little time.

Second Early House.—The trees must be started without delay to have ripe fruit in May or early June according to the variety. Alexander and Early Louise Peaches started now will ripen the fruit in May, but Stirling Castle and Royal George started at the same time will be a month to six weeks later in ripening their fruit. Fire heat should only be employed to keep out frost at night and to insure 50° by day, above which ventilate freely, and close the house at that temperature, except that a little air should be admitted constantly by the top ventilators in close fitting houses. Bring the trees on slowly, not hurrying them in swelling the buds; and if these are too abundant rub off those on the under side or at the back of the growths. Sprinkle the trees in the morning and early in the afternoon of fine days only, damping sufficing when the weather is dull. Apply water if necessary to bring the soil into a thoroughly moist condition. Outside borders may be covered with about 3 inches thickness of leaves and litter, but avoid thick and rich coverings.

Succession Houses.—These cannot be kept too cool after the leaves are all down and the trees have been pruned and dressed. If the roof lights are fixed the borders must be carefully examined, and water supplied to keep the soil thoroughly moist. Dryness at the roots during the rest period is a fertile source of the buds falling, and thorough waterings will not do any harm provided the drainage is effective. The lights, however, should be removed from the roof whilst the trees are at rest. The frosts are never so severe as to injure the wood of trees in good health and profitable use, and the borders become thoroughly moistened by the winter rains and snow, so that they seldom require

water until the fruit is taking the first swelling and entering on the stoning process. Trees under fixed roofs seldom have the soil thoroughly moistened, therefore the buds are imperfectly formed, and are cast when they should be developing into blossom.

Unheated Houses.—We remove the roof lights from these directly the leaves are all down, and they remain off until the beginning of March, earlier or later according to the season. The buds are then commencing to swell, some having burst their scales and showing the downy integuments that protect the blossoms. Up to that stage they are simply frost proof, for it is not the buds that suffer from severe frost, but the unripe wood, and that is worse than useless, as it falls a prey to gum disease. We also defer the pruning of these trees until the spring, which is a light affair, as they are grown on the long-pruning system, and all the useless wood is cut out directly the fruit is gathered, so that the wounds heal at once, and the winter pruning is rendered almost nil.

Pines.—We again direct attention to the necessity of making preparations at once for producing ripe fruit during May and June. Black Jamaica—an excellent fruit, especially in winter—Charlotte Rothschild, and Smooth-leaved Cayenne plants, which, however promising now, failed to show fruit during October and November, will not throw up in time to ripen at the time named. Attention must, therefore, be directed to such as attain perfection in less time, as the Queens, Enville, and Providence varieties. Select at once those plants which have an enlarged base with a tendency to open in the centre, evidence that the fruit will shortly be visible, and place them in a light house or pit, affording brisk bottom heat, say 85° to 90°, a top heat of 60° to 70° at night, 70° to 75° by day artificially, and 10° to 15° more from sun heat. When the external conditions are favourable, a moderate amount of ventilation must be given, and the atmosphere should be genial, syringing the plants once or twice a week, and then very lightly, damping all available surfaces in the house, except the hot-water pipes, on fine afternoons. Water will be required at the roots about every ten days, but do not supply it until the soil becomes dry, and then in a tepid state, with a little guano (1 oz. per gallon) or some other fertiliser in it, and always copiously, dribbles doing more harm than good.

Cucumbers.—The weather has been tantalising, and necessitated sharp firing sometimes, but there have been bright and mild intervals, so that the growth has not suffered like it does when the days are cold and the sun obscured for lengthened periods. Cucumbers like light, heat, and moisture; the glass should be kept clean both inside and outside. Add a little soil over the roots as they protrude through the sides of the ridges or hillocks, using warmed sweet soil, and moderately moist. A few sweetened horse droppings sprinkled on the surface of the bed occasionally will attract the roots and supply them with food. Supply water only when the soil is getting dry, then afford a soaking. Plants in limited borders, pots, and boxes should have liquid manure, always tepid, and not too strong nor too often. Damping available surfaces, or the paths and sides of the bed and house, will be sufficient to maintain a genial atmosphere if it be attended to in the morning and in the afternoon of fine days. Remove surplus fruits as they appear, also tendrils and male blossoms, unless they are required for impregnating the fruit-bearing flowers: Stopping and thinning will not be much needed, but it must not be neglected, as crowding is the precursor of evil consequences. Tie in the growths as necessary. Do not overcrop the plants, and be careful not to allow the fruit to remain longer on the plants than to attain a useable size; they keep fresh several days after being cut if the heels are inserted in a saucer of water in a cool place, but safe from frost. Red spider is sometimes troublesome, especially in structures that are badly heated, necessitating, as it does, sharp firing. Sponging the infested leaves with a solution of softsoap, 2 ozs. to a gallon of water, is a sure, and, all things considered, the safest remedy; but it requires to be taken in time, for when the pest has obtained a footing it is difficult to prevent its rapid spread. White fly succumbs to repeated fumigation, only damp the floor, but not the plants, prior to commencing. Mildew may be kept under by dusting the affected parts with flowers of sulphur, or the hot water pipes may be brushed over with a mixture of sulphur and skim milk, the fumes of the sulphur being fatal to red spider, white fly, and mildew. Green and black aphides may be destroyed by dusting with tobacco powder or fumigation with good tobacco paper or rag on two or more consecutive evenings, but be careful to deliver the smoke cool and not give an overdose, as the foliage is at all times, especially at this time of year, thin and soon injured.

THE KITCHEN GARDEN.

Tomatoes.—Plants put out on ridges of soil on narrow borders too late in the season to attain a productive size before the winter sets in are very liable to collapse suddenly, a disease attacking the stem just above the soil. Apparently there is no certain remedy for this, though keeping the plants somewhat dry at the roots is a fairly reliable preventive. Pot culture is the best for winter Tomatoes, few or no plants being lost when the roots are confined to 10-inch or rather larger pots. Given a light position, a fairly brisk heat, ranging, say, from 55° by night to 60° in the daytime, accompanied, when possible, by a circulation of dry air, the plants will grow strongly and produce bunches of flowers in due course. In order to set these go over the plants every day at about 12 A.M., and smartly tap the footstalks of the bunches with a light stick, this being sufficient to distribute the pollen, some of which is certain to lodge on the pistils. Give water somewhat sparingly till at least three good clusters of fruit are set on each plant, then pinch out the points and treat more liberally at the roots. Pot plants in full bearing may well receive moderately strong liquid manure each time they are watered, a top-dressing of rich compost also being good. Those

plants that are on the roof and now yielding fruit plentifully need not be cut out after their crops are cleared off; this is advisable if badly infested by the white fly known as *Aleyrodes*. Such strong plants, if retained and liberally treated at the roots, would soon form abundance of fresh shoots, which, if laid in thinly, will produce early and valuable crops. Seedlings or rooted cuttings in small pots should be placed in their fruiting quarters early in the new year, otherwise they will very probably be surpassed in productiveness by others which may have been raised from seed sown early in January. A hard sturdy growth is desirable, but this can best be brought about by planting in a firm bed of fresh but not very rich soil, keeping them starving in small pots being anything but a good preparation.

Diseases and Insect Pests.—A free use of fire heat accompanied by a good circulation of dry air effectively checks the spread of diseases of a fungoid nature, and that is the reason why less of them is seen during the late autumn and winter months. If the same conditions were persevered with in the spring disease might simply be defied, maintaining a moist atmosphere such as suits a variety of other growing plants really invites an attack which nothing short of a return to a more rational treatment will obviate. At the same time if the old plants are at all diseased, these and any small ones that have been prepared with the idea of making a good early start, ought all to be thrown away, and a thorough cleansing process given the houses. Starting afresh with new soil and healthy newly raised seedlings the progress made will be rapid and in the end a decided gain will be scored. Especially ought those who grow Tomatoes for the markets to strive to make a clean start, though the temptation to be among the earliest to consign fruit not unfrequently induces them to run risks in the direction of putting out autumn-raised plants. Prices are good in May, and it ought to be possible to have fairly large quantities of fruit ready to send to the market during the early part of that month from January-raised plants.

PLANT HOUSES.

Freesias.—As these start into growth they should be placed on a shelf moderately close to the glass where the temperature does not exceed 50°. If the tubers have been covered with cocoa-nut fibre refuse until they started into growth light must be admitted to them gradually until the stems are green. This is best done by standing them at the base of some house or pit where the temperature is suitable. If required to flower in batches the majority of the plants should be allowed to come forward under cool conditions.

Primula obconica.—This plant does better where the temperature ranges from 45° to 50° at night than in a perfectly cool house where frost only is excluded. In the latter the foliage assumes a sickly yellow appearance; in fact the plants are starved. By the aid of gentle warmth growth continues, and flowers are very freely produced.

Chrysanthemum Cuttings.—As cuttings can be obtained they should be inserted without delay before they become drawn or weakly. All kinds needed for the production of large blooms ought to be inserted singly in thumb pots filled with a light sandy soil. They root so freely that scarcely one will be lost if placed under handlights stood in a cool Peach house or vinery. When propagated under cool conditions there is no fear of the young plants receiving a check during the process of hardening. Those needed for decorative purposes may be inserted thickly together in handlights in which a few inches of light soil has been inserted. Directly these are rooted they should be potted singly, or two or three placed together in each pot. Free-flowering kinds only should be selected for bushes when allowed to grow and flower in a natural manner.

Lilium candidum.—Plants that were potted as advised in previous calendars will be now showing their flower stems. These should be given a temperature of 45° to 50°, where they will grow slowly. These plants must not be hurried in their present stage, or they will be spoiled. Give air daily when the weather is favourable to insure steady growth. Watch for aphides, and destroy them at once by fumigating with tobacco smoke.

Lilium Harrisii.—If not removed from the ashes in which they were plunged when potted these should be taken out at once. Stand them for a time in the greenhouse until their stems are green, and then place them on a shelf close to the glass. We find these plants always start best in a frame with the surface of the pots covered with 2 inches of cocoa-nut fibre refuse. In this position the plants remain until they grow through, and then they can be removed and placed direct upon a shelf. Water as soon as the pots are removed from the plunging material, and be careful not to allow them to become dry afterwards. Select from the earliest batch the most forward plants and place them in the temperature advised for *L. candidum*. Under these conditions the plants will move forward and flower early.

Hyacinths, Tulips, and Narcissi.—These and other bulbous plants plunged under ashes should be removed if ready before the material in which they have been placed becomes thoroughly frozen. Those not ready should have a good layer of litter covered over them, so that they can be examined and removed when sufficient roots have been made. Those that are removed must have light admitted to them gradually, but be careful not to place them close to hot-water pipes that may be used to keep out frost. In such positions they become unduly excited and dried. The later batches of the early Roman Hyacinths will move forward rapidly enough under greenhouse treatment, unless an extra quantity are needed for any special purpose. Early Tulips needed for Christmas may be pushed forward in the forcing house if sufficient heat is maintained; if not place them in the propagating house. If the plants have been properly prepared and are well rooted heat will not harm them.

THE BEE-KEEPER.

APIARIAN NOTES.

SPACE OVER BEES.

THIS during winter is an incentive to disease and spring dwindling. Bees live together and communicate heat to one another on the same principle as some animals do that nestle together. Damp must be almost or entirely absent, a state of matters not to be found in most nineteenth century hives. In properly prepared hives bees winter well at and even under a zero temperature outside. Within doors in a darkened room they will bear confinement, *i.e.*, enclosed within their hives for several months while the temperature is below freezing, but at a temperature of 40° and upwards not longer than for a few days. At a temperature of 45° to 55° bees will remain healthy for months, but they must not be confined, and should have ample space for the contraction or expansion of the cluster. No ray of light whatever must reach them in that state. Outside wintering for this country, so far as my experience goes, cannot be improved upon.

BROOD DRAWING.

This sometimes commences at an early date, and under circumstances least suspected. From the answers I have seen given to questions on this subject by modern teachers, it is evident they lack the knowledge to guide their pupils properly. As a rule after bees commence breeding in the early part of the year they will continue as long as they have a supply of pollen and honey, and even after the former is scarce; but the bees underfed of that essential are small. Sometimes if the weather becomes chilly and unfavourable they will eat large quantities of eggs and brood. But the time bees are most liable to destroy their brood is shortly after a flow of honey, whether that be in large or small quantities. The bee-keeper should therefore study this subject, and so prevent the calamity that apparently few as yet understand. I have put a stop to it by exchanging the queens of two hives. Moreover, I have, after depriving the queen regnant of a brood-drawing hive, introduced a young queen, when the brood-drawing which had stopped begun anew, and was carried on till the end of the season. Bees will at one time of the year suffer death by want rather than destroy the brood, while at others they destroy the brood although the hive has large quantities of surplus honey.

A FERTILE AND PROLIFIC QUEEN.

So far as I have experience, fertility or prolificacy is more a question of the time a queen will continue laying eggs rather than the number she will deposit in a day. I have never known a queen, or queens, to fail in her maternal duties from the moment she commenced laying till the bees showed signs of having her superseded; indeed, even this does not always predict a waning queen. I have repeatedly removed queens that were doomed by the determination of bees to raise queens both at timely and untimely periods. When we can prevent bees raising queens we shall be able to prevent swarming, but not till then. That problem is as yet unsolved. On a future occasion I will give instructions how to proceed with the progeny of two queens in one hive.—A LANARKSHIRE BEE-KEEPER.

BEES AND STONECROPS.

It may be remembered that, some time ago, in speaking of *Sedum spectabile*, reference was made to its stupefying effect on bees. "A Lanarkshire Bee-keeper" at that time suggested that it might be caused by the smell from the *Sedum*, and desired me to observe the effect of other Stonecrops upon the bees. The weather of the past season has again been very unfavourable for the purpose of careful investigation of the subject. I have, however, paid as much attention to it as possible, and the following is the result of my studies. 1, None of the early flowering Stonecrops have been frequented by bees, probably owing to *Clover* being plentiful in the district. 2, The following others have been observed to be constantly frequented—*viz.*, *S. spectabile*, *S. telephium*, *S. cordifolium*, *S. populifolium*, *S. Ewersi*, and a yellow unnamed Stonecrop, resembling a tall, late-flowered *S. reflexum*. 3, By none of these do the bees seem to be stupefied except in the case of *S. spectabile* when grown in quantity together. It is obvious, however, that the question cannot be properly decided without growing the other Stonecrops also; but the result seems to lead to the conclusion that "A. L. B. K." is correct in his belief that the effect on the bees was caused by the odour, and also that even ardent bee-keepers may grow the Stonecrops without fear of loss of their bees unless the *Sedums* are grown extensively and in a mass.—S. ARNOTT.

PUNIC BEES.

"A LANARKSHIRE BEE-KEEPER" inquired whether the yellow colouring of the combs sealed by my half-bred Punic bees was caused by propolis or pollen. I do not think it was caused by propolis, but cannot say whether pollen was the cause. The hive swarmed, leaving sections partly filled. These I took from the old hive and placed on the swarm. The bees partly sealed them, but had not time to finish them before the honey flow ceased. I noticed that these sections, as well as all the honey which was sealed in the body of the stock hive and in the swarm, were sealed a yellow colour. It was not like the ordinary discolouration which arises from the combs in sections being left too long on the hive over the brood nest, but had a transparent appearance.—C. Northumberland.

TRADE CATALOGUES RECEIVED.

James Veitch & Sons, Royal Exotic Nursery, King's Road, Chelsea.—*Seeds, Horticultural Implements, &c.*
E. Webb & Sons, Wordsley.—*Spring Catalogue of Seeds, &c.*
Dickson & Robinson, 12, Old Millgate, Manchester.—*Seed Catalogue.*
B. S. Williams & Son, Victoria and Paradise Nursery, Upper Holloway, London.—*Flower, Vegetable, and Agricultural Seeds.*
Sutton & Sons, Reading.—*Amateurs' Guide in Horticulture.*
J. R. Pearson & Sons, Chilwell Nurseries, Nottingham.—*Chrysanthemums.*
Dicksons (Limited) Chester.—*Vegetable and Flower Seeds, &c.*
Cooper, Taber & Co. (Limited), Southwark Street, London, S.E.—*Vegetable and Flower Seeds, &c.*



* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Chrysanthemum Sport (A. O.).—You ask what we think of your sport from *Source d'Or*? In the form in which it reaches us we think it has a rather shabby appearance, and we are a little doubtful if even when presented in its best condition it will make a sensation. Still, try it. You say you call it *Hedgehog* because a little bristled. We should drop one of the "g's" if it were in our collection.

Books (Fruit Grower).—You can obtain three good books on fruit culture for a little more than the amount you name; one by Mr. Rivers of Sawbridgeworth, one by Mr. G. Bunyard, The Nurseries, Maidstone, and one by Mr. J. Cheal, Lowfield Nurseries, Crawley, Sussex. They contain valuable information. (C. S.).—Mr. Baine's "Stove and Greenhouse Plants" (Murray) will probably suit you. We do not know the price, but you can obtain it from a bookseller.

Seedling Chrysanthemums (R. T. C.).—You ask if "seedlings of this year which are semi-double come double next season." Seedling Chrysanthemums seldom fill well the first year, for various reasons. In the first place the seedlings are rarely grown in larger than 6 or 7-inch pots; next, we are necessarily ignorant as to how the varieties should be treated, whether they are early or late, or if the plants should be stopped or not. If a bloom comes with not more than five or six rows of florets it, as a rule, is not worth keeping; but if the bloom is promising in form and colour, even if it has an eye or centre as large as a shilling, it is very likely to fill the next year. In saving seedlings colour with breadth and length of floret are the principal items to be studied, while distinctness of form should not be overlooked.

Mistake in Dissolving Bones (T. C.).—We do not see where you have made any mistake except in using too much water, consequently too little sulphuric acid. To 2 lbs. of bonemeal, perfectly dry, add 1½ lb. of water and 1½ lb. of sulphuric acid, mix, and these if left to act on each other for twenty-four hours should form superphosphate of lime, nothing else remaining. The bones used to form the superphosphate must contain the essential phosphate of lime (55 per cent. or more), that is, they must be fresh, or at least sound, for it is useless

expecting the sulphuric acid to act on old and decayed bones that have lost the greater part of the phosphate of lime through the acids of the soil and abstraction by the roots of plants, leaving little beyond carbonate of lime. Your sample is a very poor one, not only old, but containing much earthy matter, and appears to have lain a considerable time. Use good and fresh bonemeal, and when dissolved, if you want it dry, mix with fine, dry ashes so as to form a powder.

Making Superphosphate of Lime (Bones).—See reply to "T. C." No liquor should remain at the bottom of the cask, all the bone being converted into superphosphate—a paste which is, perhaps, best mixed with wood ashes in a perfectly dry state, so as to form a rather lumpy but palpable powder, easily distributed, as well as thoroughly soluble in water. A good way to utilise bones is to place them in a cask, stood outdoors, as they are forthcoming, putting a layer of earth—say, 4 inches thick, then the bones in similar layers, sprinkling wood ashes over each layer of bones so as to fill the interstices, and so on until the cask is filled. A few loose boards may be placed over the top of the cask, but not so as to exclude air, and in twelve months or less the bones will crumble and form superphosphate—a crumbling powder—excellent for top-dressing plants of all kinds, including fruit trees, for which it is better than superphosphate prepared by dissolving bones in sulphuric acid. Any liquor remaining in the cask to which you allude is injurious to vegetation, but there ought not to be any in a properly made superphosphate.

Hard Carrots (E. T. H.).—There is a tendency in some varieties, particularly those which form part of the root above ground, to become more or less hard in places. The defect is very common this season in the earliest sown main crop roots. This is partly due to the early sowing (late March or early April). The hardness of the flesh is in no way attributable to the manure. We should not sow before the middle of April for the main crop, and even then in light silicious and calcareous soils the roots are liable to become overgrown—that is, advanced towards the seeding state, and so have more or less hard cores or parts that do not become tender without extra long boiling. In such soils it is sometimes necessary to sow early in July to produce a late crop; the roots then attain to a good useable size, and are tender and delicious when cooked. James' Intermediate is one of the best garden Carrots, the root being formed below ground or the crown level with the surface, and it keeps excellently when stored in moist sand or light soil in a cool place. There is no edible value in that part of a Carrot grown out of the ground, and we advise you to grow those only for table use that produce their roots within the ground, say Early Scarlet Horn for early use, and James' Intermediate Scarlet for winter supply.

Early and Late Chrysanthemums for Market (F. H.).—A successful grower of blooms and sprays for market gives the following information. Presuming that by the term "early," varieties are required to bloom in September, six are named as being suitable. Some of the Desgranges may be disbudded if fine individual blooms are in request, though fleecy sprays are sometimes more profitable. Most varieties answer either way, except the "Tecks," which in all cases must be disbudded. The letter "D" is appended to those which are good for that purpose. *Early varieties.*—Madame C. Desgranges (D) and Mrs. Pitcher, white; Mrs. Hawkins (D), clear yellow; Mons. Gustave Grunerwald (D), rich pink; Golden Shah, bright golden yellow, and Mr. Burrell (D), primrose. *October kinds.*—La Vierge (D) and Mrs. Cullingford, white; Pynaert Van Geert (D), golden yellow; Roi des Précoces, dark crimson; Alexander Dufour, rich purple, and Mons. Wm. Holmes (D), crimson scarlet. The Desgranges may be had through October by stopping the plants later; these also make good pot plants for market use, as do Mons. Gustave Grunerwald, La Vierge, Roi des Précoces, Alexander Dufour, and Mons. Wm. Holmes. *Late varieties.*—Princess Teck (D) and Boule de Neige, white; M. Bergman and Golden Madame Pages, yellow; Massalia, bright crimson; and Julie Lagravere, red. In addition to these Admiral T. Symonds, single yellow, and Frank Wilcox, reflexed, bright chestnut red flaked with gold, are both good and should be included.

Orchid (T. T. W.).—Judging from the flower of your Cypripedium insigne the variety is either a very poor one or the plant is in an unhealthy condition. We are inclined to think the latter is the case, and if the growth were strong and well developed the flowers would improve. If the pots are very full of roots the plants may need repotting, and this is best done in the early part of February. The roots often cling tenaciously to the pots, which in that case would be broken, and portions of pot that do not fall off naturally should be placed in fresh pots with the roots adhering. All old and decayed potting material should be carefully removed. If this cannot be done without seriously disturbing the roots place the plants in tepid water and carefully work the soil from amongst the roots. Allow the plants to drain thoroughly before they are repotted. The new compost, consisting of rough peat, charcoal in lumps, broken crocks and living sphagnum moss should be worked amongst the roots. The fibre from loam will do if peat cannot be obtained. When finishing put a layer of moss on the surface and pieces of peat and moss between all the growths as far as possible for inciting fresh roots. Very careful watering will be needed after potting. The plants should be kept in a cool house until February, and then introduced into gentle warmth, say 45° to 50° at first, gradually rising to 60°, providing shade from bright sunshine and a moist atmosphere are needed. When the new growths are well developed the plants should be gradually hardened to cool greenhouse treatment, where they will complete the development of their growths. During early autumn or winter if the plants are introduced into a temperature of 50° they will

soon push up their flowers. This Cypripedium should flower annually from every fully developed growth. If your plants are in a healthy condition at their roots you may improve them very much if grown according to the advice given, without repotting, by applying weak liquid manure every time they need water during the season of growth. They should be kept rather dry than wet at the roots during the winter.

Names of Fruits.—*Notice.*—Special attention is directed to the following decision, the object of which is to discourage the growth of inferior and promote the culture of superior varieties. *In consequence of the large number of worthless Apples and Pears sent to this office to be named, it has been decided to name only specimens and varieties of approved merit, and to reject the inferior, which are not worth sending or growing.* The names and addresses of senders of fruit to be named must in all cases be enclosed with the specimens, whether letters referring to the fruit are sent by post or not. The names are not necessarily required for publication, initials sufficing for that. Only six specimens can be named at once, and any beyond that number cannot be preserved. (J. D.).—Probably Lord Lennox. (George Steel).—1, Winter Strawberry; 2, Yellow Ingestrie. (M. W. Chessington).—Ribston Pippin. (W. W. C.).—1, Cellini; 2, Hollandbury; 3, Gloria Mundi; 4, Sturmer Pippin; 5, Hanwell Souring; 6, King of the Pippins. (A. Z., Thirsk).—Tower of Glamis. (G. T. A.).—You have overlooked the above conditions. On receipt of your name and address the fruit will be examined. It is essential that the districts be named in which fruit is grown, as the information leads to the more certain identification of varieties.

Names of Plants.—We only undertake to name species of plants, not varieties that have originated from seed and termed florists' flowers. Flowering specimens are necessary of flowering plants, and Fern fronds should bear spores. Specimens should arrive in a fresh state in firm boxes. Slightly damp moss, soft green grass or leaves form the best packing, dry wool the worst. Not more than six specimens can be named at once, and the numbers should be visible without untying the ligatures, it being often difficult to separate them when the paper is damp. (H. M.).—1, Tillandsia (Vriesia) carinata (see page 547), not an Orchid; 2, the Climbing Fern, Lygodium scandens. (T. K.).—Lælia rubescens, var. rosea (syn. L. acuminata).

COVENT GARDEN MARKET.—DECEMBER 21ST.

Trade slow, good supplies with no alteration in prices.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, half sieve	1	0	to	3	6	Lemons, case	15	0	to 35 0
" Nova Scotia, per						Oranges, per 100	4	0	9 0
barrel	12	0		17	0	Peaches, per dozen	0	0	0 0
Cobbs, Kent, per 100 lbs.	0	0		100	0	St. Michael Pines, each ..	3	0	6 0
Grapes, per lb.	0	6		2	0				

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beans, Kidney, per lb. ..	0	6	to	0	0	Mustard and Cress, punnet	0	2	to 0 0
Beet, Red, dozen	1	0		0	0	Onions, bunch	0	3	0 5
Carrots, bunch	0	4		0	0	Parsley, dozen bunches ..	2	0	3 0
Cauliflowers, dozen	2	0		3	0	Parsnips, dozen	1	0	0 0
Celery, bundle	1	0		1	3	Potatoes, per cwt.	2	0	5 0
Coleworts, dozen bunches	2	0		4	0	Salsafy, bundle	1	0	1 6
Cucumbers, dozen	1	6		3	6	Scorzouera, bundle	1	6	0 0
Endive, dozen	1	3		1	6	Seakale, per basket	3	0	0 0
Herbs, bunch	0	3		0	0	Shallots, per lb.	0	3	0 0
Leeks, bunch	0	2		0	0	Spinach, bushel	3	0	3 6
Lettuce, dozen	0	9		1	0	Tomatoes, per lb.	0	2	0 6
Mushrooms, punnet	0	9		1	0	Turnips, bunch	0	3	0 4

AVERAGE WHOLESALE PRICES.—CUT FLOWERS.

Holly and Mistletoe plentiful, very good. Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	4	0	to	9	0	Mimosa, French, per bunch	1	0	to 1 6
Azalea, dozen sprays ..	1	0		1	6	Orchids, per dozen blooms	3	0	12 0
Bouvardias, bunch	0	6		1	0	Pelargoniums, 12 bunches	8	0	12 0
Camelias, doz. blooms ..	1	6		4	0	Pelargoniums, scarlet, doz.			
Carnations, 12 blooms ..	1	0		3	0	bunches	6	0	9 0
Chrysanthemums, dozen						Poinsettia, per bloom ..	0	4	0 9
blooms	1	6		4	0	Primula (double) 12 sprays	0	6	0 9
Chrysanthemums, dozen						Pyrethrum doz. bunches ..	3	0	6 0
bunches	6	0		12	0	Roses (French), per doz. ..	1	6	3 0
Eucharis, dozen	4	0		6	0	boxes, 100.	5	0	8 0
Gardenias, per dozen ..	6	0		9	0	" (indoor), dozen ..	2	0	4 0
Hyacinth, Roman, 12 sprays	0	9		1	0	" Red, per doz. blooms ..	1	0	2 0
Lilac, white, French, per						" Tea, white, dozen ..	1	6	3 0
bunch	4	6		6	0	" Yellow, dozen	4	0	6 0
Lilium longiflorum 12						Tuberose, 12 blooms ..	0	4	0 9
blooms	9	0		12	0	Violets, Parme, French, per			
Lilium (var.) doz. blooms	3	0		5	0	bunch	4	6	6 0
Lily of the Valley, 12 sprays	3	0		6	0	Violets, Czar, French, per			
Maidenhair Fern, doz. bchs.	4	0		8	0	bunch	2	6	3 6
Marguerites, 12 bunches ..	3	0		6	0	Violets, Victoria, French,			
Mignonette, 12 bunches ..	3	0		6	0	dozen bunches	2	0	3 0

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (golden) dozen	6	0	to	12	0	Ficus elastica, each	1	6	to 10 6
Azalea, per dozen	42	0		60	0	Foliage plants, var., each..	2	0	10 0
Begonia, per dozen	6	0		12	0	Heliotrope, per dozen ..	6	0	9 0
Chrysanthemums, per doz.	6	0		9	0	Lycopodiums, per dozen ..	3	0	4 0
" large plants, each	1	0		3	0	Marguerite Daisy, dozen ..	6	0	12 0
Cupressus, large plants, each	2	0		5	0	Mignonette, per dozen ..	6	0	12 0
Dracæna terminalis, dozen	18	0		42	0	Myrtles, dozen	6	0	9 0
" viridis, dozen ..	9	0		24	0	Palms, in var., each	1	0	15 0
Euonymus, var., dozen ..	6	0		18	0	" (specimens)	21	0	63 0
Evergreens, in var., dozen	6	0		24	0	Pelargoniums, scarlet, doz.	6	0	9 0
Ferns, in variety, dozen ..	4	0		18	0	Primula, single, doz. pots	4	0	6 0
" (small) per hundred	6	0		8	0	Solanums per dozen	9	0	12 0



PRODUCER AND CONSUMER.

CORN growers have at last complained of the low price of Wheat to some purpose. Public attention is now fully aroused, not to the justice of the farmer's plea for aid, but to the fact of the comparatively low price of Wheat and high price of bread. The poor man's cheap loaf proves to be a very dear one, and the millers and bakers are accused of robbing the working man of this kingdom of 100 per cent. in the cost of his staple article of food.

We gave prices of the 4-lb. loaf at different places in our last article to show how entirely fanciful they were, and that the price of Wheat was simply ignored by the bakers. In a recent discussion of this important matter in the *Times*, the question was asked why the quartern loaf costs 5½d. when Wheat is 27s. the quarter or 3s. 4d. the bushel; whereas, about 1852, when Wheat was 60s. the quarter or 7s. 6d. the bushel, the price of the quartern loaf was 5½d.

It is shown how, in the reign of Henry III., A.D. 1267, an Act was passed to regulate the price of selling bread by statute, making the price vary according to the varying price of Wheat, but leaving a reasonable profit for the miller and baker. This Act continued in force until 1836, when the Legislature threw the trade in bread open to free competition.

In 1709, during the reign of Queen Anne, the weight of the 6d. loaf, according to the price of Wheat, was as follows:—

Wheat at 3s. 3d. a bushel, 6d. loaf	10 lbs. 11 ozs. 2 drams.
" 3s. 6d. " "	9 lbs. 14 ozs. 4 drams.
" 7s. 6d. " "	4 lbs. 10 ozs. 2 drams.

In 1758, in the reign of George II., the price stood as follows:—

Wheat at 3s. 3d. a bushel, 6d. loaf	9 lbs. 7 ozs. 11 drams.
" 3s. 6d. " "	8 lbs. 11 ozs. 0 drams.
" 7s. 6d. " "	4 lbs. 0 ozs. 3 drams.

The statute also regulated the price per quartern loaf as follows:—

Wheat at 3s. 3d., the quartern loaf	2½d.
" 3s. 6d. " "	3d.
" 7s. 6d. " "	6½d.

Wheat is now 3s. 4d. a bushel. If the assize of bread were in force a 6d. loaf should weigh nearly 9 lbs., and the price of the quartern loaf should be about 2½d., after leaving the baker and miller a sufficient profit. By the statute of 4th George IV., cap. 50, the baker and miller were to share between them at the rate of 13s. 10d. a quarter, and the selling price was to be calculated after the addition of that sum to the price of Wheat. The inevitable deduction from these facts is that since 1852, notwithstanding the advantages of improved manufacture, and the enormous adulteration which freedom of trade invariably brings forth, the price of bread has been exorbitant and unfair.

We earnestly commend these facts to the serious attention of farmers who, while crying to the Legislature for aid, allow salesmen, and tradesmen, butchers, millers, bakers, cattle dealers, and auctioneers to flourish exceedingly upon the enormous profits which they acquire through the producers' inertness and lack of business capacity. Whose affair is it but the producer's to see how his corn and cattle are disposed of, to mark the difference between the price he gets and that paid by the consumer? Unfortunately straitened means have deprived very many farmers of staying power. What does the forced sale of damp Wheat soon after harvest, of lean store cattle at Michaelmas, point to but dire necessity? Money must be had at any cost, but the sacrifice involved in forced sales only staves off the inevitable, and serves to accentuate the keen sense of depression, which the popular idea asserts comes from oppression, from hard measure dealt out to the farmer by open markets and burdens upon land.

Where can a remedy be found for so unsatisfactory a state of things? Everything points to co-operation; even the recent abortive Conference points that way. We want co-operative butter and cheese factories, outside the legitimate milk radius of large towns. What an immense difference would this make to all dairy farmers! Milk would become higher in price, simply because the present blind competition would cease; the cost of carriage would be much less; instead of sending milk to London from a distance of between one and two hundred miles, as is now done by so many farmers, they would turn with their milk to their own factories. Is it not a significant fact that during the prevalence of an agricultural depression so severe and so prolonged the cows of the Irish co-operative farmers have become 30 per cent. more valuable simply through the establishment of dairy factories? Let British farmers look to this; let them also take to heart the lessons taught by the profits of those who come between themselves and the consumer, and see if they cannot do something for themselves in this direction.

WORK ON THE HOME FARM.

Never has the value of uplands for sheep been more apparent than during the past week, with its trying changes of weather. Floods have been prevalent in the valleys, and much of the land near watercourses has been submerged, yet we have seen sheep folded on mustard with much of the field under water. They should have been removed at any cost, rather than run the risk of foot-rot and other evils, which they did. On upland pasture good work is now being done with sheep folds; the pasture is sound, there is no hurtful accumulation of water in the soil, the sheep are thriving, and the land is being steadily enriched for next summer.

Much drainage of inferior pasture is now in hand; many of the drains running full of water soon after they are made afford satisfactory proof of the necessity of this work. The draining will be followed by a dressing of mineral manure. Both for economy and efficiency, it has become a matter for consideration whether to use basic slag, or super-phosphate with a mixture of bone flour. In ordinary soils the latter mixture of phosphatic manures answers very well indeed. There are one or two facts which help to guide us in this matter. On soils rich in humus, and lacking in lime, basic slag is the most effective source of phosphoric acid. No plant can appropriate soluble phosphate (mono-basic); plants can only take up tribasic salts. In ordinary soils the soluble phosphate is quickly converted into very finely divided gelatinous tribasic phosphate by the carbonate of lime present, of which there will be from 20 to 40 per cent. In peaty and vegetable soils the carbonate of lime falls below 1 per cent.; soluble phosphate is not quickly precipitated, and preference is given to basic slag. Without aiming at exact knowledge, it is well to understand guiding principles in manure application, both for the sake of efficiency and economy. No nitrate of soda will be used till growth begins, then it will be used freely; and though it may be used after the other manures, its action is really in combination with that of the phosphates.

Look well to all yards, see that drains are open and in full action, avoid deep accumulations of manure or sodden litter; keep all sheds, hovels, and cow houses dry, clean, and well ventilated. Extra attention should also be given to the food and water of dairy cows.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.
Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.				IN THE DAY.				Rain.
1892. December.	Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
		Dry.	Wet.			Max.	Min.	In Sun.	On Grass.	
	Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	deg.	Inchs.
Sunday .. 11	29.474	41.8	40.8	S.	37.2	45.7	31.2	57.9	27.0	0.010
Monday .. 12	29.559	42.4	41.0	W.	38.1	44.3	40.0	50.3	32.8	0.018
Tuesday .. 13	29.919	35.2	34.1	N.	37.9	41.2	31.8	57.4	26.4	0.052
Wednesday 14	30.110	40.2	40.1	S.W.	37.2	51.2	29.0	52.1	23.1	0.108
Thursday .. 15	30.053	51.1	50.1	S.W.	39.8	54.5	40.2	66.2	38.6	—
Friday .. 16	30.330	40.9	40.9	N.	40.9	50.8	34.9	53.3	27.1	—
Saturday .. 17	30.317	48.3	46.4	S.W.	41.9	49.4	39.9	52.8	32.1	—
	29.973	42.8	41.9		39.0	48.2	35.3	55.7	29.6	0.188

REMARKS.

- 11th.—Overcast early; occasional sun in morning and sunny afternoon; spots of rain in evening.
12th.—Dull early; rainy from 8.30 A.M. to noon; fine afternoon, with occasional sunshine.
13th.—Fine and bright all day; bright night.
14th.—Steady fine rain from 6 A.M. to 9 A.M.; gloomy morning, heavy fine rain from 2 P.M. to about 4 P.M., damp and drizzly after.
15th.—Dull and mild morning; bright sunshine from 1 P.M. to sunset.
16th.—Overcast, with slight fog in morning.
17th.—Fine, but sunless.

Much warmer than the previous week, but not much above the average; a generally pleasant week.—G. J. SYMONS.



A CLEAR sky, crisp roads, with keen exhilarating air would appear to indicate the typical Christmas weather that the majority wish to see; and such it has been during the festal period now, like all things, passing away. With a breezy air without, the bright fires within become the more cheerful, and in mansion, villa, cottage, and bothy there have been healthfully joyous gatherings in which our readers have pleasantly shared; and there are more similar festivities to follow after the closing of the Old Year, in welcome of the opening of the New, according to the customs of localities.

It is well that the greatest possible number should close the old year happily, and enter on the new cheerfully; and one of the best features of the times in which we live is to see the increasing disposition that prevails on the part of the well-to-do section of the community to see some appropriate way to help to make the most needy rejoice on at least one day in their hard and anxious lives. It is pleasant, too, to note the mutual amenities of life exercised between and among families and friends in the form of mementos and warm greetings incident to the season. These in the aggregate not only make the world happier for the time, but their good influences linger like the refrain of a pleasant melody that is impressed on the mind. All this is good, both in its immediate effect and future tendency. Good wholesome sentiment lightens the toil of a work-a-day world and aids the wheels of life to turn the more smoothly.

A daily paper, in some notes on Christmas weather, has unearthed an old saw from the "Shepherds' Kalendar":—"If the sun shines clear and bright on Christmas day, it promises a peaceful year, free from clamours and strife, and foretells much plenty to come; but if the wind blow stormy towards sunset, it betokens sickness in the spring and autumn quarters." The sun did shine "clear and bright" over the greater part of our island home on Sunday last, and the wind did not "blow stormy" in the evening; but the sun set in a quiet calm. Would that this were a portent of the future—a year "free from clamours and strife, of plenty to come." Many will fear that the ancient presage is too good to be true, and that the old saw is out of date.

Some there are who foresee "clamour" in the coming year, as has been experienced in the past season, and it would be difficult to make others believe that there is "plenty" in store for them, and especially for those who engage in agricultural, not to say horticultural operations. We seem to be passing through a period of "risings," and the latest development is in the sphere of agriculture. Farmers are in trouble from the old cause—low prices, and it is true that those for Wheat and grain generally have never been so low before. But the "distress" is no new feature. Even so long ago as 1804, with Wheat at 62s. a quarter, complaints of agricultural distress through low prices were so widespread that a Committee of the House of Commons was appointed to inquire into it. Again, from 1821 to 1828 we find nothing but reports of "extreme distress and great agitation among farmers," with Wheat ranging from 56s. to 68s. a quarter, and House of Commons' committees were busy in seeking the cause for the trouble. Coming nearer, we find that in 1833 agricultural distress was mentioned in the King's speech in opening Parliament, and another Committee appointed. Wheat

had then fallen to 52s. 11d. a quarter. It fell to 48s. 6d. in 1836, and a Committee of the House of Lords was formed to inquire into the "extreme distress" prevailing; but then when the price of Wheat rose to upwards of 50s. in 1844 the report is "distress of farmers, destitution of labourers, and incendiarism." Many of our readers can well remember the turbulence of that time, never to return again, we hope.

Agricultural distress would seem to be perennial, and in some respects not a little inexplicable. It is with us now, and we regret it extremely. What is known amongst growers of food and manufacturers of articles as overproduction leads to periodical depression in various trades, and compels those who are engaged in them to change their methods or succumb. It is the same in the raising of crops or stock, and changes and modifications both on the part of farmers and landlords become inevitable. Having regard, then, to existing facts we are not sanguine that the late fine Christmas weather will prove the precursor of tranquillity, and "plenty to come," or at least to come quickly.

That a better state of things will eventually be brought about may be regarded as certain, but in the meantime many persons engaged on the land will find it hard to live. New methods will force themselves to the front, and artificial obstacles of a removable kind will be brushed aside when the country demands their removal. Meanwhile those farmers will act the wisest who do the best that can be done under the existing circumstances. They are simply competitors with producers in other lands, and must strive incessantly to excel them both in the bulk and excellence of their produce. Do they do this now? As a body we fear they do not. There is great room for improvement, and a few enterprising spirits are showing the way. Our land, taken in the bulk, is capable of far higher yields than are obtained from it, and a great increase in the value of food products ought to be, and will be, forthcoming in due time as necessity compels to renewed effort on more intelligent lines. Exhausted land and low farming on old stereotyped methods is the road to ruin; superior cultivation, enriched soil, and well managed crops the surest path to recover the lost supremacy.

Farmers will have to take a lesson from our best gardeners in the cultivation of the soil; then, with the best methods of stocking, cropping, and distribution, and generally making the best of their resources, better results will surely, if slowly, follow. Only the very best workers in gardening can realise anything like a satisfactory return for their outlay and labour; the impoverished and lethargic, who adopt slipshod methods, being bound to collapse sooner or later, and in the meantime the land runs out, not to be easily restored. It is just so with farmers. Capital, in proportion to the extent of their obligations, knowledge, energy, sound judgment, and keen business capacity, are the requisites of success in these keen competitive days, and in the absence of those qualifications it is doubtful if any possible fiscal changes, including further reductions in reasonable rents, will suffice to bring prosperity.

What we desire to impress on all who are engaged in the cultivation of the land, on a large scale or small, is the desirability of increasing its fertility—making it capable of a greater yield of what the community desires, and to meet the requirements of the public in the fullest and best possible manner. Land improvement should be the aim of all, and the improver will be the first to benefit, while there is not much to fear in these days that he will be deprived of the advantages he derives by his intelligence and skill. We must not "fear" but fight the "foreigner"—excel him as we ought to do, and can do with many things in meeting the wants of our population. Let those who can afford it join in any legitimate agitation they will in educating the public; but the most diligent home workers will win the best share of whatever reward may be forthcoming from platform efforts and legislative acts.

The present portents, the old saw notwithstanding, are not

bright, but they are not hopeless; and now, when good feelings should prevail, after what, we trust, is the experience of the majority, in their having spent Christmas in a wholesome, joyous way, we shall hope there will be a community of effort to tide over present difficulties, and thus make the future better than the past for our grand old country. Our best wishes to all.

SCENTED-LEAVED PELARGONIUMS.

THESE old and at one time neglected plants have made a distinct advance in popularity during the last few years, and although the majority of them are not very showy, they bid fair to become as much the "rage" as *Malmaison* Carnations have been. No one can dispute with much show of reason that they are extremely useful, supplying at the same time—as many varieties do—leaves and young shoots, which are deliciously scented, as well as elegant or quaint in outline. The flowers, too, in some varieties are fairly showy, and among the various sections of this family a good variety of colour already exists to work upon. I think, therefore, that we may reasonably look forward to the time when scented-leaved *Pelargoniums* will, in addition to the good qualities they are now valued for, possess flowers approaching in brilliancy to those which *Zonal Pelargoniums* at the present time produce. I doubt not that some of our shrewd hybridisers will, if possible, work great improvement in the direction indicated, now that they find an increasing demand for this class of plants.

The supply in many gardens, where special attention has not been given them, is not equal to the demand, consequently the few plants in stock are so persistently denuded of leaves as to give them but little chance of making vigorous growth, such as they will make when grown under favourable conditions. These plants are great favourites here, and we are now engaged in working up a large stock, which during the last twelve months have made unusually good progress. During the winter and spring months a heated pit is devoted to their growth, and when the plants require more room than the pit affords they are drafted into the conservatory, where they prove useful in a variety of ways. There is generally a great scarcity of good leaves and young shoots during the early spring months, as anything so useful in the way of greenery is cut rather hard during the winter. To obviate this I set apart a certain number of plants solely for cutting purposes; these are cleared of all available leaves and shoots as they are wanted. When a sufficient number have been so treated they are cut back to within a few inches of the old wood, and kept close to the glass in heated pits in the winter, and in the open air during the summer months, in each case keeping the soil in the pots somewhat dry till young shoots push into growth, when the plants are shaken out, the straggling roots cut away, and are placed in pots one or two sizes smaller, being afterwards shifted as required, always taking care not to cut them again till they have made ample growth. By following this course throughout the year plants in the right condition for cutting are always on hand.

I find from the present time up to the new year is a favourable period during which to cut down several plants, as they break into growth by the beginning of January, and if kept in an intermediate temperature for a couple of months, then gradually inured to cooler quarters, they supply good shoots for cutting during May and June. If cuttings are not plentiful pieces of stem with a couple of joints may be inserted rather closely together in sandy soil. These make very good plants in time, but are of course much longer in doing so than cuttings of the usual type. The chief supply of these should be inserted in August, when cuttings are readily obtained; these form useful plants in large 60-pots for decorative purposes from November onwards, while others rooted at the same time, stopped twice, and shifted into 5-inch pots, develop into dense bushy plants by April.

Where large plants are required, after stopping a few times to lay the foundation, no further pinching will be required, except in the case of shoots which show a tendency to grow unduly strong at the expense of weaker ones. The points of these should occasionally be taken out. The main shoots being staked out, and thinly disposed they will then produce vigorous side growths, and develop into sturdy specimens. I was much struck with the group of fine plants exhibited at the great fruit show held at Earl's Court in August last. They were shown by Mr. J. Hudson of Gunnersbury House, who generally grows to perfection whatever he takes in hand. Standards of various heights and sizes are extremely useful, and are always highly prized. I find the well-known Oak-leaved variety *P. quercifolium*, also *P. Radula*, are well adapted for growing in that form. All that is necessary to secure the requisite forms is to grow the plants strongly, confine them to a single stem till the required height is reached, when the point should be taken

out, and the side shoots afterwards produced be stopped twice. I ought to have mentioned that the single stem should be fastened to a straight stake as growth proceeds, and the side shoots rubbed out to secure a clean stem, the main leaves being left to strengthen it and facilitate growth.

A mistake sometimes made in the cultivation of scented-leaved *Pelargoniums* is to grow them in too poor a soil. I have tried many composts for them, and find they thoroughly enjoy liberal treatment. The mixture I recommend consists of two parts good loam, one of leaf soil, one well decayed manure, or that from a spent Mushroom bed, with a little burnt refuse, soot, and sharp sand added. The growth made in a compost of this description is vigorous and healthy, and does not easily fall a prey to insects.

When grown in light houses or pits during the summer months judicious syringing plays a most important part in promoting health and securing cleanliness. A thorough syringing given once a day during the summer months will generally keep the principal insect pest, green fly, at bay, but during the winter months an occasional fumigating will be necessary to keep such in check. Where isolated plants become infested with these insects, they may be quickly destroyed by a timely application of some of the advertised insecticides, which are invaluable for such purposes.

Some of the best varieties of scented *Pelargoniums* to grow are the following:—*Capitatum*, *quercifolium minor*, *Fair Ellen*, *tomentosum* (a very strong grower with woolly foliage, which is scented with peppermint), *Dale Park Beauty*, *Lady Plymouth* (variegated), *Lady Scarborough*, *Denticulata majus* (very finely cut foliage, suitable for buttonholes), *Radula major*, and *Pheasant's Foot*. In addition to these there are several good hybrids raised from the old *Rollisson's Unique*. All of these have more showy flowers than the preceding. Two of the best are *Crimson Unique* and *Scarlet Unique*.—H. DUNKIN, *Warwick Castle*.



WELLS CHRYSANTHEMUM SHOW.

WE are informed that the Wells (Somerset) Chrysanthemum Show will be held on November 7th and 8th next year.

HULL AND EAST RIDING CHRYSANTHEMUM SOCIETY.

WE are informed that the date of the next Show has been fixed for Wednesday and Thursday, November 15th and 16th, 1893.

JOHN LAMBERT.

IF Mr. Lambert will examine the catalogue of the N.C.S. he will find that it does not recognise such a variety as John Lambert. In that case no bloom is entitled to such a name at any exhibition where the nomenclature and the judges are ruled by the definitions laid down by the N.C.S.—EDWIN MOLYNEUX.

CHRYSANTHEMUM W. W. COLES.

"E. M." (page 531) was quite right in assuming that the yellow blooms appeared on several plants of this variety. It appeared on three out of the four plants that I grew, and one plant with three shoots had two yellow blooms, the other being true. The buds were all taken between the middle and the end of August, and were of course crown buds. Appearing on three plants simultaneously, I do not attach much importance to it as a sport, but thought it was probably subject to this variation, and "E. M." confirms this supposition.—J. H. W., *Leicester*.

STANSTEAD WHITE.

THIS superb variety should be grown in quantity for Christmas decoration, when white flowers are so much in demand. It is the best variety for the purpose that I know of, and its fluted partially incurved florets gives to it a distinct light appearance when arranged in vases. This cannot be said of many otherwise excellent varieties, their blooms being too dense and lumpy for any other purpose than single specimens. We get good late blooms of Stanstead White by growing the plants in the ordinary way and cutting them down the last week in May. From three to eight shoots are allowed to each plant, and the first buds that show are taken.—J. H. W., *Leicester*.

WHITE ETOILE DE LYON.

LAST season I thought I had a novelty in a pure white sport of *Etoile de Lyon*. At the same time I saw that someone else had also the same, and named it *Miss Lilian Cope*, and it now seems that this "new kind" has reverted back to the original. This, I think, is a misfortune. I obtained from my sport a few cuttings from the stem (cut down hard), and they grew well last summer, but not one has proved a true white. It was very pure last year, and the plant

which was grown for decorative purposes, certainly looked curious with five lilac and four white blooms. The average size of these nine blooms was about 8 inches in width.—A. HARDING.

VIVIAND MOREL FOR GROUPING.

THIS is undoubtedly one of the finest varieties we have for grouping purposes. At the Brighton Show this year the first prize group contained no less than seventeen large massive blooms of this sort alone. As they were placed together in the centre of the group, the display was remarkable. The plants were about 4 feet high from the ground including the pots; the colour of the blooms was extremely rich for the variety. The foliage was all that could be desired, and made a delightful setting for the blooms, which were large and full, with sufficient droop in their florets to make them unusually showy. The group in question was composed of decided colours, such as Fair Maid of Guernsey, Peter the Great, Etoile du Midi, Jardin des Plantes, and Elsie. All were massed in their several colours, and a striking effect was produced, and by none more than Vivian Morel.—E. MOLYNEUX.

MRS. L. C. MADEIRA.

THE Chrysanthemum bloom I left at your office is an American incurved, raised, I think, by Mr. R. Craig of Philadelphia. It is named Mrs. Lewis Childs Madeira or Mrs. L. C. Madeira. It was first imported into this country last spring. It bears the reputation of being the best incurved show flower ever raised in America. It appears to be rather late in blooming, but that may be owing to its late arrival on this side. It is of fairly good habit, splendid in colour, deep orange yellow deepening at base of the petals to apricot. The blooms are solid, but a little irregular in petal, and like Jardin des Plantes. The bloom is the first that opened from rather a weak plant. When fairly grown from good cuttings I am of opinion it will make a good show flower.—ROBERT OWEN.

[The bloom exceeds 4 inches in diameter and 3½ inches deep. It is very solid, rather too full of florets, and a little confused. The colour is extremely rich, and the variety appears worthy of trial by the fraternity.]

CHRYSANTHEMUM MRS. ALPHEUS HARDY.

IN reply to "R. M." (page 532) this grand variety requires very careful treatment to secure good exhibition blooms. It does not require such large pots as are generally employed. Great care must also be taken by artificial feeding. I prefer taking the buds two or three weeks earlier than the general varieties.—C. F.

THIS interesting Japanese variety is still the best of the hirsute section in spite of the numerous introductions. There is something so chaste about it which is not seen in others. A white sport from Louis Boehmer is claimed to be superior, but in my opinion the florets are not massive enough to eclipse the original variety when seen at its best. The new comer may be a better "doer." Mrs. A. Hardy has been exhibited numerous during the past season, but the general quality has not been good. The finest blooms that I met with during a rather extended tour of the best shows was at Windsor, where a special prize was offered for six blooms, and, strange to say, every one of the twelve blooms exhibited were perfect. Is not this an instance of what the offering of prizes will do towards the cultivation of any particular variety, even when it is difficult to produce. The blooms referred to at Bristol were the result of the offering of a special prize. The habit of this variety is naturally weak, it being necessary to insert the cuttings in good time; they should be strong. Smaller pots than are usually employed are the best, those 8 inches in diameter being large enough. Neither does this variety require so much feeding as any other. By topping the plants the first week in April, buds will be produced in August; these give the best blooms. As the wood is rather tender keep the plants longer than usual in the house in spring.—E. MOLYNEUX.

NATIONAL CHRYSANTHEMUM SOCIETY—THE "BEAUTY OF EXMOUTH" CASE.

VERILY the ways of the N.C.S. are peculiar. A Sub-Committee is appointed to "investigate" a charge made against a member of its Floral Committee; the result of the "investigation" is, that after meeting three times, its members consider the matter settled by accepting from the member complained of a statement to the effect that the main facts of the charge are false. Truly, "the mountain hath laboured," &c. What a saving of time and expense if all our judges and juries would adopt the same course! But would the public feel that justice to both sides had been done? Apparently the majority of the Committee are satisfied with the result of the "investigation." But all fair-minded persons must consider the case is not done with until the charge is either proved or refuted by facts.

In answer to the report of the Sub-Committee, permit me to state that I am prepared to swear in the most solemn form of oath which can be administered that the main facts of the charge are true, and learning some weeks ago the substance of the report I wrote Mr. Dean to this effect, but I do not gather that he stated as much to the Committee on the 19th inst.

What a dread that Sub-Committee has of "libel." We are informed that they could not publish the name of the (alleged) offending member. I did not understand they were appointed to consider this question at all, but simply to investigate a charge which they had before them in precise and definite terms. Why the cry for publication of the name

of the individual? The matter does not affect the *Journal of Horticulture*, but the N.C.S., and the Committee know as much now as they would if the name were published.

Perhaps it may not be amiss for me to quote the concluding paragraph of a letter which was received by me from Mr. Dean:—"I am an older man than you are, and can therefore presume to give you a little wholesome advice. Do not throw about charges against committees and men wildly as you appear disposed to do. You may not be able to substantiate these if called upon to do so, as is not unlikely you will, and then your position may become one of considerable embarrassment to you." To this I replied I was most anxious to be called upon, and I have always been ready for examination.

Since then I have been favoured by Mr. Wells with the correspondence between Mr. Dean and himself respecting "another member." Among it I find the following from Mr. Dean:—"The enclosed letter appears to me to contain a serious libel upon a member of the Floral Committee of the above Society, and in mercy I return it to you, and advise you not to write in such a way again." With this was returned a letter which Mr. Wells had requested Mr. Dean to place before the Committee of the N.C.S.

Although Mr. Wells repeatedly requested his case to be brought before the Committee, he was informed by Mr. Ballantine (the Chairman of the Floral Committee) and Mr. Dean that his matter was a "personal one." However, Mr. Wells was of a different opinion, and ultimately did get his case before the Committee, with the result that the member Mr. Wells complained of "was condemned for his action," and this in spite of the Chairman's and Secretary's opinion that he (Mr. Wells) had no case.

By the report of the Sub-Committee, I consider I am stigmatised as a person who has brought an unfounded charge against another. Grant me space to add that I personally had no grievance with anyone, as my "Beauty of Exmouth" was certificated. I only considered I had a duty (unpleasant though I find it) to perform towards the N.C.S. and the Chrysanthemum world generally; but the result of the "investigation" compels me now to leave no stone unturned until I have cleared my own character.—W. J. GODFREY, *The Nurseries, Exmouth*.

[We have other letters on the cases referred to, but extreme pressure, consequent on the holidays, with the preparation and publication of the index, forbids their insertion this week.]

THE NATIONAL CHRYSANTHEMUM SOCIETY.

MR. DEAN has invited Mr. Pearson to supply him with the names of any candidates he considers fit to serve on the Floral Committee of the National Chrysanthemum Society, and promises to see they are duly nominated for election. I hope Mr. Pearson will promptly avail himself of this offer, and make a good choice of well-known good growers, as it will not only add prestige to the Society, but test the "circle" or clique question. Surely other members are entitled to the same privilege as Mr. Pearson. I do not know the duties of the present Secretary, but the late Mr. Holmes used to apprise country members of the principal meeting.

As a member of the National Chrysanthemum Society of some years' standing I naturally feel interested in its welfare, and feel sure if the Committee wish to retain the confidence of its country members their doings must be strictly fair and wholly above suspicion. They need not exclude the Press from their meetings, and destroy the only medium available to absent members to know the Society's transactions.

If we consider the endless number of certificated varieties that are consigned to the rubbish heap after the first year's trials amongst the growers, it seems to suggest the important necessity of some improved method of awarding certificates to new untried sorts. But instead of a first-class certificate being a genuine guarantee for a first-class variety, the certificates appear to be about equally distributed between a few of the trade; but if the Floral Committee were composed more of growers, they would not risk their reputation by giving awards to worthless sorts. The "National" holds two Chrysanthemum shows yearly at the same place, both to suit the southern climate. Why not hold a show to suit the northerners, where the colour of the Chrysanthemum is rarely seen before all the southern shows are over? This reminds me of the farce of a National man, who has never grown a Chrysanthemum out of the London smoke, writing to a northern affiliated society the most suitable time to hold their show, instead of recommending them to consider their own climate and locality. He thought the day following the Aquarium Show the most suitable. As the advice was from London it was accepted, and the society had the satisfaction to see their prizes going away from their best supporters. When at the Aquarium Show last November I asked the opinion of one qualified to know whether he considered the present show up to the usual standard. He replied without hesitation, "Certainly not. What would this be if it was not for trade exhibits?"—J. H. GOODACRE.

NEW CHRYSANTHEMUMS.

(Concluded from page 532.)

Col. W. B. Smith.—Were it not that William Seward supplies a colour much wanted I should be inclined to give this variety the first place in point of merit. The blooms are each 8 inches in diameter and 5 inches deep without any sign of coarseness. The florets have a semi-drooping tendency, the centre quite full. The colour is new—a golden bronze with a terra cotta suffusion. The florets as they unfold incline slightly with a twist, but on development this gradually passes away. I do not think the engraving in the *Journal of Horticulture* (page 421)

quite does the variety justice. It was evidently figured from a partly developed bloom. The growth is all that could be desired, from 4 feet to 5 feet, without being topped. Those not already in possession of this novelty should lose no time in adding it to their collections.

Mrs. Charles Blick.—This belongs to the Thunberg style of flower, being quite of that colour, but less twisted or curled than that grand old variety. Altogether this new introduction is quite one of the best yellows in cultivation.

Comte F. Surani.—An exceedingly dwarf variety. I had good blooms on plants 2 feet high. The colour is white, mottled and edged with rose, which fades somewhat with age. The flower is of the Belle Paule type, having semi-drooping, smooth, and flat florets.

Madame Octavie Mirbeau.—Belongs to the same class or style of flower as the foregoing, but the florets are longer, more drooping, and have more rose in the colouring. It is a novelty of the first rank.

Il Trovatore.—This has broad flat florets, the colour is peach in the centre, but paler towards the margin, medium sized bloom; very pretty.

W. P. Routh.—A yellow, of the style of Avalanche in build, very promising.

Duke of York.—This belongs to the incurved Japanese section. The colour is magenta or purple on the inside of the florets, the reverse silvery; the blooms are large; promising as an exhibition variety.

Rosy Morn.—An exceedingly pretty variety belonging to the reflexed Japanese section, the colour a delightful shade of peach blossom; as a decorative variety nothing could appear more promising.

Lerd Brooke.—I strongly recommended this variety last year, and it has quite come up to expectations. No variety is more striking in appearance in a stand when in good condition as Mr. Fowler had it several times. The colour is bronze with an edging of gold.

Madeline Davis.—Blush white narrow incurving florets, very neat and promising.

Barbarossa.—This has semi-drooping narrow florets, deep pink in colour.

Mrs. Herbert Fowler.—The colour of this is deep rose, mottled and striped with white. A full flower of much promise.

Hetty Dean.—This belongs to the decorative class. The blooms are full, solid and the purest white. Grown as a bush it ought to be extremely useful.

Mrs. W. H. Atkinson.—The colour is terra cotta red, reminding one of Triomphe du Nord, broad flat florets; altogether a flower of much promise.

C. H. Simmons.—This is a sport from the old La Triomphante. It opens up quite a distinct break in colour. Each floret is striped once and in some cases twice, with soft primrose yellow, rendering it novel and interesting.

George Savage.—A seedling from Mrs. Alpheus Hardy, but without the hairs. The florets are narrow and incurved closely, making a full solid flower, pure white in colour.

The Tribune.—Colour soft primrose yellow, therefore this variety is a gain to the exhibition stand. At present there is a scarcity of blooms possessing that colour. The florets are flat, forming a full centre. Altogether this is a most promising variety.

W. K. Woodcock.—A broad petalled flower of the reflexed Japanese type. The colour brick red with gold tips; it should make a capital front row bloom for exhibition.

Mrs. Hubbuck.—Deep carmine in colour, the reverse silver, which is shown by the tips of the florets incurving. A full massive flower.

Waban.—Incurved Japanese, fully 8 inches in diameter, thick fleshy florets of a pleasing pink colour.

Lizzie Cartledge.—In colour this reminds one of W. Tricker when the latter is well developed, with perhaps a shade more rose in it. The reverse of florets silver.

Professor Whitmaek.—This is of the style of M. Freeman in the formation of its florets; the colour is deep rose or magenta, the tips show the silver reverse.

Mrs. Harman Payne.—A giant in size, the colour deep rose with a silver reverse.

Kentish Yellow.—As a decorative variety this possesses much merit.

Mrs. J. Jones.—Incurved Japanese, broad florets, of a peach colour.

Princess Victoria.—Blush white, very deep in build, reflexed Japanese section.

JAPANESE ANEMONE.—*Mrs. Lawton.*—The guard florets, white with blush tips, are broad, the centre or disc pale pink; very promising.

Madame Nathalie Brun.—Disc pure white and full; the guard florets are thin in texture, colour pale pink.

POMPOX.—*William Kennedy.*—Rich crimson shaded amaranth in colour, but somewhat spoilt by its extra size, being in reality classed as a hybrid.

SINGLE VARIETIES.—*Snow Wreath.*—The purest white and best form of flower.

Mrs. Laplin.—One of the largest flowering varieties, pure white, loose florets.—E. MOLYNEUX.

CANKER ON FRUIT TREES.

THIS is a most important subject to fruit growers. In a certain soil with which I am acquainted Apples and Pears are liable to canker, and Cherries to gum; Plums, Gooseberries, and Black and Red Currants do well. As the same varieties of Pears and Apples canker on one soil and do not do so on another, it seems a correct deduction that when they

canker there is either something injurious in the soil or something lacking which they need. The following is the late Dr. Voelcker's analysis of the soil mentioned above:—

* Organic matter and loss on heating	...	...	3.64
Oxide of iron	...	...	3.38
Alumina	...	...	4.45
Carbonate of lime	...	...	3.91
Sulphate of lime	...	...	0.26
Magnesia	...	...	0.67
Soda	...	...	0.07
Potash	...	...	0.51
Phosphoric acid	...	...	0.24
Insoluble siliceous matter	...	...	82.87
			100.00
* Containing nitrogen	...	...	0.17
Equal to ammonia	...	...	0.21

It will be noticed that there is a large proportion of oxide of iron. As, where there is more iron still in the soil in the same locality, Apples canker still more, and, as it has been mentioned by some of your correspondents, from time that Apples canker where there is much iron in the soil or subsoil, it would appear that excess of this is the cause of the canker. On the other hand Mr. Tonks seems to favour the application of iron (sulphate). Is the sulphate beneficial, while the iron in its natural condition in the above soil is injurious? Or is the oxide of iron in the soil unassimilable? Would the special application of nitrogenous manures make it assimilable, or else cause it to become soluble and take its exit. Would sulphate of ammonia be a suitable manure (of course phosphorus and potash being added) bearing in mind it is a limestone soil? The soil in question has regular applications of manure, mostly from horse stables, and also yearly applications of chloride of sodium, and once recently nitrate of soda was applied.

It will be seen from the above analysis that the soil is a good one for fruit growing, yet some trees of nearly every variety of Apple that has been tried, canker, and the sorts liable to canker do so very much. I may also say that Apples, and especially Pears, are rather liable to the fungus which causes cracking. Sulphate of iron has not been tried for this at present.

Perhaps it would be well to have the fruits analysed by someone who is used to the analysis of vegetable products. If so, I shall be pleased to have the name of such a one. I shall be glad to have the opinions of others more acquainted with the subject than myself, and any information that could be gained would be of practical value to all classes of fruit growers.—WALTER KRUSE, *Leeds, Maidstone.*

POINSETTIAS.

ON page 527 (December 15th) "T. P." made reference to growing two distinct varieties of Poinsettia pulcherrima, one of these being much earlier to flower than the other. I grow a large number of these useful decorative plants, and until a few years ago used to have three varieties under the names of P. pulcherrima, P. p. major, P. p. plenissima; each of these being quite distinct in the bracts, foliage, and manner of growth. P. pulcherrima was the tallest, and this often prevented this variety being used for many purposes. The varieties known as major and plenissima were much dwarfer in habit and produced brighter and more attractive bracts. P. major appears to develop its bracts in heat naturally from the middle of October without undue forcing, while plenissima is at its best now, thus proving it to be a good successional variety, being at least quite a month later.

For general decoration I have found P. major the most useful on account of its very dwarf character. Large bracts can also be obtained on plants a foot high when grown in 48-size pots. Sometimes when grown in larger pots they will extend to 30 inches, and will make more densely double bracts, often measuring quite 20 inches across. P. plenissima has a habit intermediate between P. pulcherrima and P. major var. The flowers of both will last good over a long period if grown in a moderately airy temperature. This will also enable the plants to stand in a light position in the dwelling house for two or three weeks without injury.—B. DOCKERILL, *Elmhurst Gardens, Reading.*

It is certainly known to not a few readers of the *Journal of Horticulture* that there are two distinct varieties of these showy winter decorative plants, although, as intimated by your correspondent "T. P." (page 527) there may be others unacquainted with that fact. The varieties are valuable as affording an excellent succession, and that, too, without treating them differently to bring this about by enforced or unnatural means. Certainly the earlier flowering variety is the most valuable one of the two, because it will produce bracts with greater certainty and more freely than the other.

A fine stock of the early variety is grown annually by Mr. Iggulden at Marston, and the summer treatment of his plants and the results have induced not a few who have witnessed their sturdy growth to adopt the same course. Old plants are neither despised nor discarded, as these give a larger return and less trouble in production, glass protection being only afforded them in their early growth until they are well started. They are given air almost as freely as Pelargoniums when once they are growing well, and from that time until they are

housed the lights are dispensed with entirely. "T. P." says good plants and bracts may be grown in 7-inch pots. I have seen some at Marston growing in 48's from 12 to 16 inches in height, bearing heads of the same dimensions as their height. These were young summer struck plants of the November flowering variety.

Useful as they undoubtedly are in the month named, they are, I think, still more so in December, when there is not the same wealth of Chrysanthemums, and the nearer they approach the great winter festival the more value is set upon them, particularly in the case with those who have to supply flowers for the decoration of churches. For this work Poinsettias are much sought after, and furnish perhaps the boldest and most striking flower obtainable. They have a peculiarity quite their own as cut flowers, some standing erect and fresh for several days, oftentimes a week or more; others droop the same day or the next after they are arranged either in living rooms or in church, all being equally fresh and gathered at the same time. Such an erratic custom is very disappointing to those who have to purchase them at the high price usually charged at Christmas time. The searing of the cut end with a red heated iron immediately on being gathered prevents their drooping so quickly as they will do, even if placed at once into water, because the ends being slightly charred prevents bleeding.

The above advice has been oft repeated in the *Journal*, and I have on more than one occasion proved its soundness. I cannot, however, explain why such severe flagging should occur in some bracts, while others equally fresh when cut should stand erect for days without showing any such tendency. Perhaps other readers may be able to throw some light on the subject for the benefit of those who use Poinsettias in a cut state.—W. STRUGNELL.

IMPROVING HEAVY SOILS.

MY experience with very strong soil is different from that of Mr. Igguiden, as described on page 519. I find it is best when first taken in hand to bastard trench it at once; it is the only way I can make the land at all workable. After the surface soil is moved the depth of a fork there is below this a hard pan-like subsoil; into this the roots of no kind of crop can penetrate. To assist the quick percolation of water also from the surface it is necessary to have the subsoil broken up 2 feet deep from the surface. In this way the soil is rendered fairly dry—at least, water does not lay on the surface where the soil has been moved in the way advocated. Although the land is heavy and retentive, it is not clay exactly, but a near approach to it, being freely mixed with flint stones. When the soil has been moved to the depth named, the stones act as a percolative medium.

Drains appear to be useless in this land, owing, I suppose, to the number of stones contained in the soil. The garden when made, fourteen years ago, was drained, 18 feet apart and 4 feet deep; the pipes were covered with stones 1 foot thick, and over these were laid Thorn cuttings from the hedges. From the appearance of the drains one would think there had not been a drop of water through them since. By the addition of plenty of long manure on the top of the broken subsoil, and by adding abundance of decayed vegetable refuse, leaf soil, and road grit to the surface soil, frequently forking it over when dry, we are enabled to grow fairly good crops of vegetables and some kinds of fruit.

I also find this land is made much better and more easily managed if bastard trenched about every second or third year. Where it is longer neglected than this the subsoil "calluses," and is not favourable to the growth of anything in the way of annual crops. Cow manure I found was not the best to use here; it adds to the heaviness of the land, keeping it cooler, and obstructs quick percolation during sudden and heavy rainstorms.

Hereabouts chalk is largely employed for mixing with the surface soil, containing, as it does, a certain per-centage of lime. How much I do not exactly know, as the quantity contained in various chalks is not the same. Excellent building lime is made from chalk in some localities, but in others it is useless for this purpose. The manner of "chalking" in this part is to lay it fresh from the quarry on to the land early in the winter, frost pulverising it to a powder, when it is then forked into the surface, and acts mechanically in loosening the soil, and chemically, too, I suppose.—E. MOLYNEUX, *Swanmore*.

A CHRISTMAS PEAR.

ACCORDING to my experience, Doyenné du Comice is one of the best Christmas Pears in cultivation. The fruit, when well grown, is of a large size and most delicious flavour. Invariably, too, the tree is a good cropper, and with me gives the most satisfactory results.

To corroborate my statement regarding this Pear, I send you a few samples, which, I think, will be sufficient to prove that it is worthy of all that can be said in its favour. The Pears sent herewith were grown on a south wall in Yorkshire, and considering that this northern

county is not the most favourable for growing, you will doubtless consider them worthy of notice.—C. D., *Yorks*.

[The Pears sent by our correspondent were exceedingly fine, and arrived in splendid condition a few days before Christmas. The illustration (fig. 75) represents a well grown Doyenné du Comice, such as those referred to.]

AN ATTRACTIVE BED—WINTER CHERRY.

A PLANT not too well known, and not cultivated so much as it should be, is the perennial Winter Cherry (*Physalis Alkekengi*). Although said to be a native of Southern Europe, it seems to withstand our severe

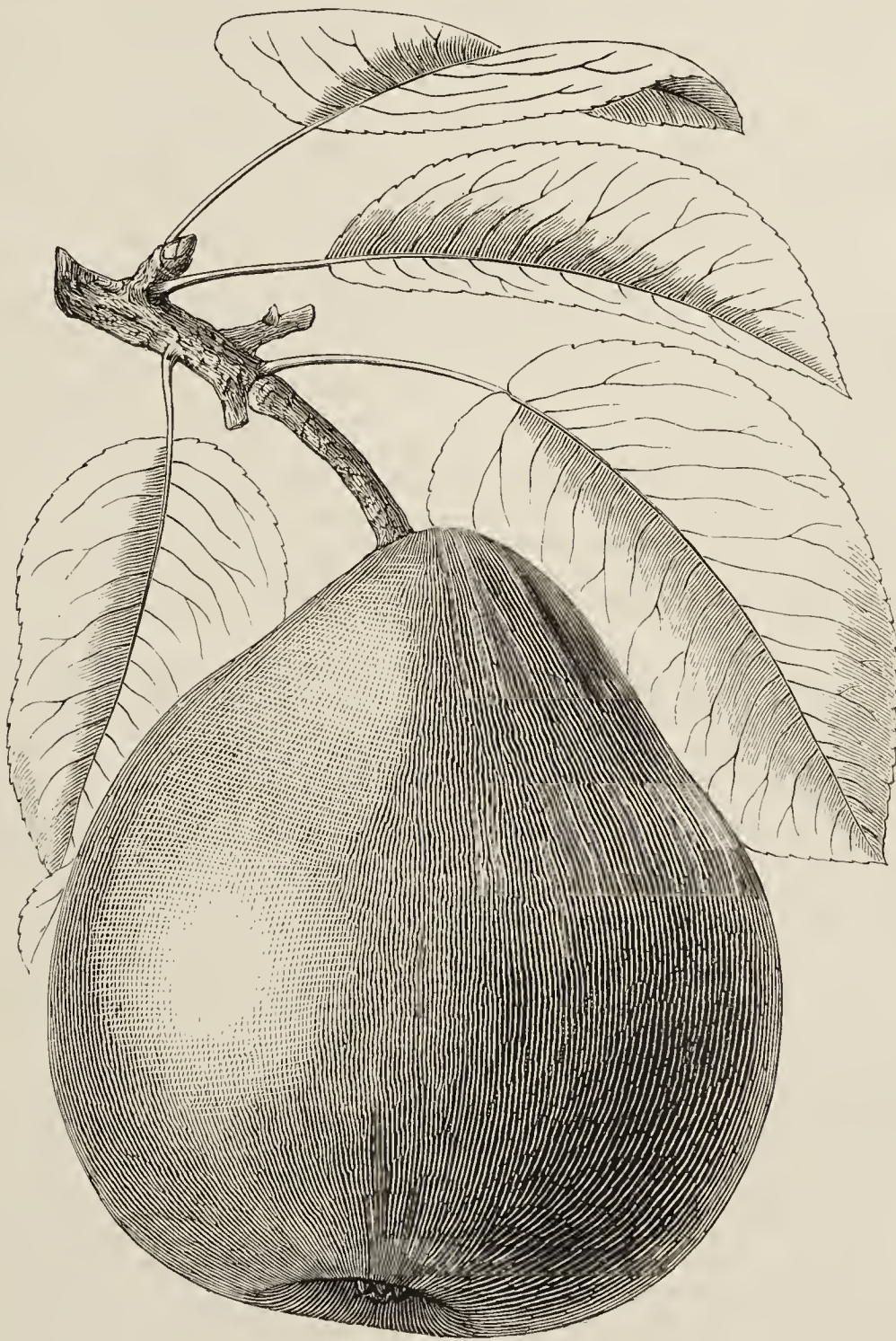


FIG. 75.—PEAR DOYENNÉ DU COMICE.

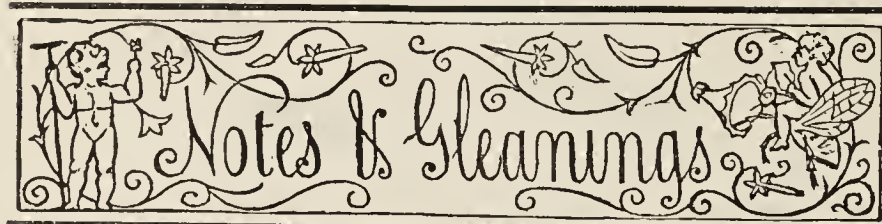
winters. In a bed 12 feet in diameter are planted seven or eight Japanese Maples of the polymorphum type, and well coloured in the spring and summer months. They have stems about 2 feet in height, and their heads spread out 2 to 4 feet across.

Three years ago, in the month of April, young plants of the *Physalis* that were just shooting up from an old bed were planted as an edging to the Maple bed about 9 inches apart, and also a few were dotted about beneath the trees. Previous to planting two barrowfuls of decayed manure were lightly forked in, but the bed has had no other stimulant or digging since. The *Physalis* grows about 18 inches in height, and during the summer is not attractive, only as a green plant, but it is in the months of October, November, and even December that it is so telling. Even at the present time this bed, with its hundreds of leafless stems, but covered with its bright orange red calyces is very effective at 200 yards distance, quite a blaze of colour.

It is an old-fashioned hardy perennial, and has been found eligible in a class for hardy perennials at the Royal Horticultural Society in the month of October. The foliage is all off the Maples now, or the undergrowth of *Physalis* would not show up so well. Anyone who has

a sunny border or bed is advised to grow it for the sake of its curious fruit. The roots creep and spread; if the plants encroach too much on other things they can be easily forked out. I have seen it encroach on a broad gravel path and left to grow, and everyone who saw it in the late autumn months admired it, and some would remark, "What a curious plant." To obtain the strongest and best stems it is advisable to replant every three or four years in fresh ground about the month of April, or when about an inch in height.

It is useful for decoration purposes, harvest festivals, or for mixing with dried Lunaria (Honesty) and plumes of Pampas and other Grasses. I have now beside me a bunch of the Winter Cherry that was cut fourteen months ago, and still looks well.—A. HARDING.



OUR INDEX.—The insertion in the present issue of an index to the matter in the *Journal of Horticulture* during the past six months compels us to defer the publication of articles and letters of considerable interest. We desire to thank all our correspondents, and, at the same time, to assure them that promptitude or otherwise in publication in no sense indicates the measure of our appreciation of their communications.

— THE WEATHER IN LONDON.—The present week opened bright and seasonable in the metropolis, a sharp frost having occurred on the Saturday night. In the suburbs the thermometer registered 14°, or 18° of frost. Monday and Tuesday were also frosty, though on the morning of the latter day a thick fog prevailed. It cleared during the day, and froze hard at night; but on Wednesday it was very foggy with little frost.

— WEATHER IN THE NORTH.—4°, 11°, 20°, 22°, 24° of frost were recorded here on successive mornings since the 23rd inst. The days have been clear and fine. The 25th was a beautiful day throughout. The rimc has been so dense that the whole country seems as if snow had fallen, and the cold is intense.—B. D., *S. Perthshire*.

— "MY GARDEN."—There are in flower in Mr. A. H. Smee's collection of Orchids at the above place a fair number of good things. Prominent amongst others I recently noticed a very fine piece of *Lycaste cruenta* and a very dark flowered form of *Lælia anceps*. The latter was exceedingly good indeed, the blooms being of a most beautiful dark colour, much resembling *L. Goldiana*, as staged by Messrs. Sander and Co. at the Drill Hall, Westminster, the other week.—R. H. R.

— THE SEVERE WEATHER.—During the past few days the weather has been most severe in various parts of the country. On Saturday night the hard frost appears to have been general throughout Britain, as well as on the Continent. In this country the thermometer duly sheltered in the screen had fallen below 20° in many districts, the lowest readings of all being 15° at Loughborough, 16° at York, and 19° at Oxford. In London the shade minimum was only 25° (which means 7° of frost), but on the surface of the grass the thermometer fell to 19°. In Scotland the weather had been even more severe than in England, a shade reading of 12° being recorded at Nairn, and a minimum of 20° at Wick and Leith. The morning readings on Christmas day were as low as 15° at Berlin and Munich, 17° at Brussels, and 20° at Paris. Early on Tuesday 18° of frost were registered at Grantham in Lincolnshire, and 16° at Peterborough. At Hawick in Scotland, 24° of frost were registered on the 26th, and 19° on the 27th inst.

— THE FLOWER GIRL'S GUILD, which was established for the protection of flower sellers in the streets of London, ought to be a flourishing as well as a wealthy body, to judge from the number of distinguished ladies who take an active part in its organisation. The Marchioness of Bath, Lady Alington, and Lady Granby are just now busily engaged in getting up a Twelfth Night dance in aid of these well-looking-after flower girls, who also number among their "Patronesses" the Princess of Wales, the Duchess of Fife, and the Duchess of Teck.

— NEW CANNAS.—One of the brightest coloured of the new Cannas is Alphonse Bouvier. The large flowers are so brilliant that even Madame Crozy looks dingy beside them, says an American contemporary. Sarah Hill is another variety of a peculiar brilliant tint, while Capitaine P. de Zuzzoni is an admirable yellow.

— MARKET VEGETABLES.—Nearly the whole of the English vegetable produce is grown in the Thames Valley and the home counties, says an authority. Cornwall and Devon contribute Broccoli and early fruits, while Potatoes come from all parts of the kingdom. Middlesex, however, is the centre of the vegetable and fruit growing industry, which is annually extending.

— COVENT GARDEN MARKET.—For more than 300 years, says a daily contemporary, fruit, vegetables, and flowers have been sold on the present site of Covent Garden Market. In 1661 King Charles the Second granted to William, Earl of Bedford, the right for ever to hold a market in the parish of St. Paul's, Covent Garden.

— "MUSHROOMS FOR THE MILLION."—Having followed out advice given in a book of the above title, we have been very successful with Mushrooms this season, whereas in previous years we have not had nearly so many. It would be well if any readers of the *Journal* who fail with them were to follow out the instruction given in the book referred to. I feel sure they would have cause to rejoice over abundant crops.—W. B. F.

— TILLANDSIA LINDENI.—In Mr. A. H. Smee's garden at Hackbridge are to be seen, just opening, some grand flowers of *Tillandsia Lindenii*. The blooms of this beautiful *Tillandsia* are, as most readers of the *Journal* will know, a pure celestial blue colour, rendering the plant conspicuous in any collection. It should certainly be much more largely grown than it is, as it does not require any extraordinary measures to bring it to perfection.—R. H. R.

— EXETER GARDENERS' ASSOCIATION.—The last meeting of the autumn session in connection with the Exeter and District Gardeners' Improvement Society took place at the Guildhall recently. Mr. Weeks (gardener to Mr. E. A. Sanders) presided, and there was a large attendance. Mr. Mackay (manager at Messrs. Veitch's Royal Nurseries) gave a *resumé* of the papers delivered during the year. The points raised by the essayist caused a good deal of discussion, especially upon such questions as pruning and the general treatment of fruit trees.

— FRUIT IN COUNTRY MARKETS.—Your correspondent "A. D." (page 505) hits the nail on the head when he asks why growers do not pack their choice Plums properly and smartly and despatch them to good markets. The same applies with equal force to other fruit. The outlay to obtain suitable boxes and paper is comparatively small, and that it pays in the end is a well-known fact. A case in point might be cited. An amateur grower in Lincolnshire had an enormous crop of Plums two years ago, many more than he required for his home. He decided to sell a portion, and, acting on my advice, packed the best of the choicest varieties in a similar manner to that advised by "A. D." The result was very satisfactory. Even in the local markets he secured double the price of those sold in the usual manner, the gentry in the neighbourhood buying them eagerly for dessert purposes.—LINCOLN.

— ALEXANDRA PALACE AND PARK.—For some time past H. R. Williams, Esq., The Priory, Hornsey, has been making strenuous efforts to secure the Alexandra Palace and Park for the free use and recreation of the people in North London. A meeting to that effect was held in the National Hall, Hornsey, on Wednesday, December 7th, Mr. R. D. M. Littler, Q.C., C.B., occupying the chair. The park comprised 434 acres, and is the grandest of all the open spaces available for the free use of Londoners. The whole of it, with the palace, could be bought for £275,000, and the Chairman expressed the hope that the Middlesex County Council, the Corporation of London, great landowners, and the general public concerned would be prepared to do something. Mr. H. R. Williams moved the following resolution: "That this meeting, recognising the importance of open spaces and their paramount necessity for the health and recreation of the growing masses of the population, believes that the alienation of the Alexandra Park for building purposes would be a lasting and irreparable injury to the northern suburbs, as well as to the metropolis generally, and is further of opinion that the time has come when more active measures should be taken to secure this unique park as an open space for ever for the free use and enjoyment of the people, and urges the County Councils of Middlesex and London to take such steps as they may think desirable for that purpose; and it further urges that nothing in the meanwhile be allowed to interfere with the public rights which now attach to 135 acres of the said park." Mr. Stephens, M.P., seconded, and the resolution was unanimously adopted.

— **ADIANTUM FARLEYENSE.**—Allow me to thank your correspondents who have so kindly given their experience of this beautiful Fern. Such notes cannot fail to be instructive to readers of the Journal, especially to those who have not been successful in growing this Fern. Your correspondents are unanimous in recommending loam in preference to peat to form the bulk of the potting compost. I quite agree with them on that point, also in the necessity of draining the pots well.—C. RUSSELL.

— **ROYAL METEOROLOGICAL SOCIETY.**—The usual monthly meeting of this Society was held on Wednesday evening, the 21st inst., at the institution of Civil Engineers, 25, Great George Street, Westminster, Dr. C. Theodore Williams, President, in the chair. Dr. R. H. Beardsley, Dr. T. C. Beatty, Dr. R. Brocklesby, Mr. C. H. Cotton, Dr. P. Fraser, and Dr. G. H. Ward-Humphreys were elected Fellows of the Society. The following papers were read:—

(1) "MOVING ANTICYCLONES IN THE SOUTHERN HEMISPHERE," by Mr. H. C. Russell, F.R.S., Government Astronomer, New South Wales. The author describes the results of his practical study of the daily weather charts for Australasia, and states that the leading fact brought out is that the weather south of 20° S. latitude is the product of a series of rapidly moving anticyclones, which follow one another with remarkable regularity, and are the great controlling force in determining local weather. These anticyclones are more numerous in summer than in winter, the average number for the year being forty-two. They usually take seven or eight days to travel across Australia in summer, and nine or ten days in winter, the average daily rate of translation being 400 miles. The shape of the anticyclone appears to undergo some modification as it nears the east coast. The winds on the north side of the anticyclone are not so strong as those on the south side, and the intensity of the weather is in proportion to the difference in pressure between the anticyclone and the V depression, but the relation of the pressures varies frequently before the wind responds, the pressure appearing to be controlled from above by the more or less rapid descent of air which feeds the anticyclone. Cyclonic storms are very unusual, and do not occur more than once in two or three months.

(2) "RAINFALL OF NOTTINGHAMSHIRE, 1861-1890," by Mr. H. Mellish, F.R.Met.Soc. The author has collected and discussed all the rainfall records made in the county during the thirty years, and finds that in the extreme west the mean rainfall is 27 inches or more, and that over the rest of the county it varies between 25 and 27 inches, except north of the Manchester, Sheffield, and Lincolnshire Railway, where the rainfall is less than 25 inches, and in the north-east towards Gainsborough, where it is not more than 23 inches. The year of greatest rainfall was 1872, and of least rainfall 1887. October is the wettest month and February the driest.

— **TEA GROWING IN AUSTRALIA.**—Experiments are going to be tried with a view of testing the soil and climate of certain localities in Australia for the cultivation of Tea. One paper suggests that Tea culture in Australia might be a recommendable venture. According to Müller the Tea plant has proved hardy in the lowlands at Melbourne, where, in exposed positions, it endures quite unharmed light night frosts, as well as the free access of scorching summer winds; but it is in humid valleys, with rich alluvial soils and access to springs for irrigation, that the most productive Tea fields can be formed. The greater the rainfall in any region otherwise adapted the richer the yield of the Tea plant. Its culture is not difficult, and it is singularly exempt from fungus diseases if planted in proper localities. Pruning is effected in the cool season, in order to obtain a large quantity of small tender leaves from young branches.

— **WINTERING ECHEVERIA SECUNDA GLAUCA.**—I find no difficulty in wintering these in a temporary made frame of stout boards or slabs about 18 inches high at the back, and 15 or so at the front. The bottom, which is on ashes, has a layer of freshly gathered leaves; on this we place any soil from the potting bench, old Chrysanthemum compost or anything of that character. The Echeverias are planted in the soil quite up to the leaves, stripping off some of the old foliage. If the root stem is considered too long for planting next year in the beds it is chopped off to within 4 inches of the leaves. These plants come in most useful for planting horizontally at the edges of the beds next year. Roots are formed between the middle of October and the time the plants are put out in May or June. All the covering the Echeverias receive during the winter is with straw thatched hurdles, and they answer capitally.—E. M.

— **BLUE TITS AND PEAS.**—These birds are very destructive with the early Peas in my garden. I have seen them taking the Peas when very small from the pods and carry them away to the nest for their young.—G. F.

— **ANCIENT SOCIETY OF YORK FLORISTS.**—The annual dinner of the Ancient Society of York Florists took place on the 21st inst. at Harker's Hotel, Ald. Sir Joseph Terry, J.P., presiding. The Chairman was supported by a company of about fifty in all. Mr. Alderman Rymer proposed the "Ancient Society of York Florists," and said he thought that it was filling a very important place in the welfare, elevation, prosperity, and entertainment of their fellow citizens. Responding, Mr. McIntosh said that never in the whole history of the Society's career had there been so many members, and to give some idea of its rapid progress he might remind them that some twelve or thirteen years ago they had only some 50 members, whereas now they had no less than 600.

— **ENGLISH ORCHARDS.**—Whilst lecturing on the culture of fruit in Westmoreland recently, Mr. T. R. Spelman, of Fulwood, said that three-fourths of the orchards in the country were in a lamentable condition and ought to be improved. The old worn-out trees he would grub up and clear away, the young varieties should be cut down and re-grafted in the spring, and the good varieties he would thin out well with a saw, so as to give them plenty of light and sun. The main branches and trunk should be scrubbed to remove moss and lichen. The following mixture he recommended to be used to rid the trees of caterpillars:—Two parts of lime, one of soot and some clay, mixed with water and made into a thin paste, and then applied with a whitewash brush to all the branches and the stem, being careful to smear every part of the tree.

— **DOUBLE PRIMULAS.**—I was pleased to see in the *Journal* of December 8th (page 503) a note of successful culture of these beautiful winter flowering plants. It is more in defence of the old double *Primula sinensis* I wish to draw attention, as I find it is most free in flowering. We grow a variety named Princess, very much like Mrs. A. F. Barron, but for freedom of flowering it does not approach the old Double White. The hybrids possess a much more vigorous constitution, therefore may be grown to a larger size. We have plants of both forms, averaging 15 to 18 inches through in 6-inch pots; some plants of the old Double White are larger than this, and about 6 to 9 inches in height. We earth up the collars in spring with cocoa fibre refuse and keep the plants in an intermediate temperature. When well rooted they are divided into as many parts as necessary, placed in small pots and put on a shelf close to the glass in a rather close stove. When filled with roots they are repotted as required, using a compost of loam and leaf soil in about equal parts, with a good addition of old mortar rubbish and a little bonemeal if obtainable. Watering is very carefully performed at all times, especially after potting. During the summer the plants occupy a pit facing south; a 4-inch pipe runs through the frame. We allow as much sun as plants will stand without flagging, and syringe on bright afternoons; they require plenty of air, but enjoy more warmth at all times than the single varieties.—W. B. F.

— **ROYAL CALEDONIAN HORTICULTURAL SOCIETY.**—PRESENTATION TO MR. P. NEILL FRASER.—On Friday afternoon last Mr. P. Neill Fraser, Treasurer to the Royal Caledonian Horticultural Society, was presented with a handsome service of plate in recognition of the gratuitous services as Treasurer of the society, a post which he has filled for the long period of twenty-three years. The presentation took place in the Royal Hotel, Princes Street. Mr. John Clapperton presiding over a gathering of well-known horticulturists. In making the presentation the Chairman spoke of the long number of years during which Mr. Fraser has given his services to the Society, and as showing how the Society had grown during that time he mentioned, that whereas in 1871 their funds were £90, now they were upwards of £1200. Again in 1871 their ordinary receipts, including the drawings at the annual show were £350, while last year they amounted to £1600, the prize money last year having alone amounted to £730. At the close of twenty-three years' service as Treasurer, the Directors had thought that the time had come when Mr. Fraser's services—gratuitous and disinterested services—should be acknowledged in some shape. In a sense the mantle of the late Dr. Neill had fallen upon Mr. Fraser, for he had always maintained a lively interest in horticulture and botany. (Applause). Mr. Neill Fraser suitably acknowledged the presentation. He said that a Society like theirs was not too often over-burdened with funds, and sometimes the Treasurer had a little difficulty in making both ends

meet; but, thanks to the cordial co-operation of the Directors, who had done everything to further the interests of the Society, his task had been rendered comparatively light. Mr. Fraser acknowledged, too, the assistance which the Society had always received from the nurserymen of Edinburgh, and stated that as many as 20,000 visitors had attended a recent Show of the Society in the Waverley Market. Mr. Fraser's health was cordially pledged, and thereafter the Chairman was toasted on the call of Mr. John Methven.

— SAVOY CABBAGES.—Just at this time of the year when Savoy Cabbages, and especially small ones like the Ulm and Dwarf Curled, are so abundant and delicious, more than ordinary interest may well be taken in this section of the Cabbage tribe. The distinguishing peculiarity of the Savoy Cabbage is its raised or corrugated leafage, distinguishing it so much from that of the ordinary white Cabbages. De Candolle, as we learn through M. Vilmorin, attributes this puffed or corrugated form of the Savoy leaf to the fact that the parenchyma or spongy substance is developed more rapidly than are the nerves or veins, and it is therefore in consequence raised above their level, not finding room enough to grow flatwise in the small areas between the veins. This form of growth seems to be productive of more tenderness in the leafage, and certainly of a more marrowy texture or substance. The flavour of the Savoy Cabbage also is more pleasant and mild. For these reasons small varieties are now specially enjoyable.—A. D.

— SCHEDULE SCAMPING.—I am pleased to observe that attention is drawn to the slovenliness which so often characterises schedules of shows. In how many instances do we find classes mixed up higgledy-piggledy—plants, cut flowers, fruits, and vegetables indiscriminately, the poor judges having to turn from one thing to another in the most erratic fashion. Surely in ordinary or special classes it should not be difficult to take the sections in due order—plants, blooms, fruits, and flowers, as is the usual way. Then, how many classes are there that are indifferently defined, or the conditions are so ill-drawn that all sorts of disputes arise? Were schedules properly prepared these disputes would very rarely be heard of. If there are no practical men on a committee, surely the help of someone capable might be obtained, or perhaps one may set up a sort of schedule reviser, to whom all prize schedules should be sent, that they may be put into shape, and made

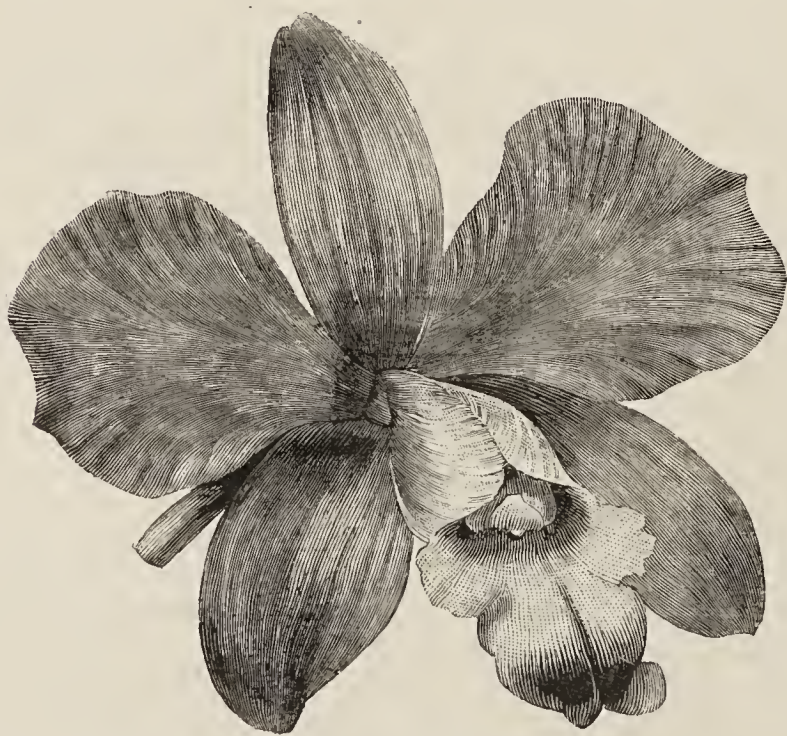


FIG. 76—SOPHRO-CATTLEYA CALYPSO.

to assume a sensible form. The putting-in of advertisements between the leaves containing the prize classes is an intolerable nuisance, and one is surprised that any committee should sanction such an arrangement. The society's matter and advertisements should always be kept distinct. Very often the classes are in too small type, and unduly crowded. Not infrequently also, instead of being in neatly bound book form, they are large loose sheets. It ought not to be difficult in any place to secure enough of advertisements locally to pay the cost of printing at least; and then the work should be done well, so as to give the advertisers their full money's worth.—A. D.



LÆLIA ANCEPS OWENIANA.

AN award of merit was adjudged this charming Orchid (fig. 77) at the meeting of the Royal Horticultural Society on Tuesday, December 13th, where it was exhibited by Mr. Owen, Selwood, Rotherham. It is a very distinct variety, and attracted much attention. The sepals and petals are of a brilliant rose colour, paler at the base, and with white patches. The lip is a rich magenta, the yellowish throat being streaked with the same colour.

SOPHRO-CATTLEYA CALYPSO.

THIS beautiful bigeneric hybrid is the result of a cross between Cattleya Loddigesi and Sophronitis grandiflora. It is a charming Orchid, and is likely to become a favourite. The flowers are intermediate in size, and the plant is also of moderate growth. The sepals and petals are of a rich rosy carmine, and are shorter than those of the Cattleya, but wider than in the Sophronitis. The throat is a rich yellow colour, and the lip is deeply margined with rosy carmine. A specimen of it was exhibited at the Drill Hall on Tuesday, December 13th, by Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, when a first-class certificate was awarded for it. Fig. 76 represents it.

ORCHID NOTES.

"LINDENIA" for the current month contains well-executed plates of Cattleya × Hardyana Gardeniana, a very fine form of this hybrid Cattleya, which recently flowered in the collection of M. Garden, Bois de Colombes, near Paris, and which differs from the type chiefly "in the absence of the peculiar veining on either side of the disc of the lip;" and Cattleya Dowiana Statteriana, "one of the most handsome forms known. The sepals and petals are of a bright yellow shade, and the lip has far less of the purple colour than usual. The disc has a central band of purple lines bordered on either side by a broad band of yellow, the undulate margin being edged with lilac-rose." This variety was exhibited at a meeting of the Royal Horticultural Society on September 19th, 1890, and was then awarded a first-class certificate. The history of the introduction of Miltonia vexillaria is given at length, also an interesting account of the habitat of the plant and the climatic conditions under which it is found, accompanied by a plate of M. vexillaria virginalis, a variety with large pure white flowers.

A plate and description of Vanda insignis, introduced from Timor by Messrs. J. Veitch & Sons in 1867 and certificated by the Royal Horticultural Society in 1868, complete an excellent number of this publication.

CYMBIDIUM MASTERSI.

This beautiful Cymbidium may now be seen in flower in the cool Orchid house at Kew under the name of Cyperorchis Mastersi. In general appearance it resembles C. eburneum, but the leaves are longer, broader, and more recurved, and have not the close-sheathing base characteristic of the latter plant. The flowers, however, differ very much in shape from those of C. eburneum, and it is this difference that led to the generic name Cyperorchis being applied. The raceme is erect and many flowered. The flowers are pure ivory white, with a blotch of purple on the lip, and very fragrant. The plant possesses the further merit of flowering during the winter months, and the flowers last for a long time. It is a native of Assam, and was introduced by Messrs. Loddiges in 1841. It flowered for the first time in England in 1844, and was figured in the "Botanical Register" in the following year. It was named by Griffith after one of the principal assistants in the Calcutta Botanic Garden. The variety album has pure white flowers, except the keels, which are yellow.—A. B.

THE BLENHEIM ORCHIDS.

As briefly announced in a previous issue, the splendid collection of Orchids at Blenheim was sold by auction by Messrs. Protheroe & Morris on Monday, 19th inst., and the four following days. The plants were well cultivated, and a good many specimens of fine types were included. Among the specimens which realised high prices may be mentioned a plant of Cattleya Lawrenceae with 150 pseudo-bulbs, 25 guineas; C. Mendeli, 20 guineas, another 15 guineas; C. labiata autumnalis, 12 guineas; C. Skinneri, 11 guineas; a fine plant of Ada aurantiaca, £8; Cypripedium Morganiae, £5; Epidendrum prismatocarpum, which had thirty-five spikes last year, 8 guineas; Cymbidium eburneum, 9 guineas;

C. Mastersi, 6 guineas; *Cœlogyne pandurata*, a fine plant in a pan, 9 guineas; *Lælia anceps alba*, 14 guineas; and *Sobralia xantholeuca*, 9½ guineas. Other plants secured moderate prices, and were sold without reserve.

IMPORTED AZALEAS.

THOUSANDS of Azaleas, both *indica* and *mollis*, are imported annually from Belgium. It is said that the business is developing, too, very rapidly. The plants are sent direct to private growers, also to trade growers and wholesale firms, besides thousands are disposed of by auction. Gardeners, as a rule, are rather chary about purchasing these plants, for they are not always satisfactory; but I am under the impression the fault lies chiefly with the culture accorded them, which is not at all times judicious or rational either. When walking through a greenhouse I have had it explained to me that the Azaleas are not satisfactory, but then they were only imported plants last autumn. This answer may do very well in some cases, but I fear we shall have to find something more plausible to satisfy anyone used to the culture of such plants.

It is well known the plants arrive here without any pots, neither have they been grown in any. They are simply cut out of beds of leaf soil, at any rate 80 per cent. is composed of this material. This proceeding naturally root-prunes them to a remarkable degree, cutting away the greater part of the feeding roots. In most cases this soil gets dry by the time the plants reach their destination. I have seen it dust dry when the plants were unpacked in the auction room. This state of affairs does not improve the plants; on the contrary, it no doubt damages many of the roots that have already escaped injury. If we commence by over-potting, the first cultural mistake is made. I find they will just go in 6-inch pots, and allow a little peaty compost to be pressed round them. But before they are potted the ball of roots should be placed in a vessel of water till it is thoroughly saturated. After allowing the water to drain out, the plants will be ready for the pots. It is needless to remind the grower they require efficient drainage, for they will not brook sodden soil. For compost I prefer peat, leaf soil, and turfy loam in equal portions, with a liberal addition of road or silver sand. This compost may appear a little too light, but if it is used at a right degree of moisture it can be pressed very firm without becoming pasty, the latter condition should be scrupulously avoided.

After potting the plants require a cool house, where they will get plenty of air and light. This is the point where failure is often courted. The plants are found to be well set with flower buds, and the grower straightway resolves to have them in bloom early. Thus they are introduced into a warm house, probably a forcing pit. The result of such treatment is too well known to require detailing here. It appears to me to be absurd to expect plants to do other than fail under such circumstances. The heat causes the buds to swell, the leaves demand a supply of food from the roots, which they are totally unable to give, owing to their recent treatment, and the inevitable result follows. If cool treatment is given them the buds remain quiet, there is no demand, or very little from the leaves, and the plants have a quiet time to form plenty of roots before spring. I potted a small batch of *indica* early in October. They have been kept quite cool since. To-day I have turned out several of them, and am pleased to record the fact that they are making a quantity of beautiful white roots that will be able to support them sumptuously next spring when active growth commences again.—JAMES B. RIDING.

INSECTS OF THE FLOWER GARDEN.

(Continued from page 257.)

GARDENERS know how important it is, with many flowers that are grown for exhibition, to preserve the petals from all damage or displacement, and there is no doubt these sometimes occur through the visits of insects seeking honey or pollen. Some of my friends who have noticed certain of the larger flies on or near flowers, have fancied they might do harm to the petals by biting them, but most of the damage done in this way is to be attributed either to earwigs or to some species of beetle. Bees rarely bite flowers, though they are furnished with jaws; flies never do, for their sole implement is a proboscis or sucker; even the species that are predatory in habit cannot eat the insects they kill, they only grasp them firmly, imbibe their juices, and drop the bodies. Many of those flies we see haunting flowers come to them in order

to seize other insects, and do not touch the flowers themselves; there are also flies which seem to visit our flower gardens for no particular object, unless it be to enjoy their beauties.

Amongst the commoner flies of the garden we cannot fail to notice the conspicuous soldier flies of the family *Stratiomidæ*, which come next to the crane flies, already mentioned. It is not very evident why they were thus styled, for they are not warlike, and though a few of them have red markings on a black ground, others are tinted with yellow or white. Some of them are large, broad-bodied, they possess spines on the thorax, and the bodies have more or less of a pattern upon them, in spots, streaks, or



FIG. 77.—*LÆLIA ANCEPS OWENIANA*.

triangles. They visit flowers for their honey, and do not seem to meddle with other insects; harmless species, ornamental in the garden, and while some of the larvæ or grubs live in ponds or ditches, others feed on decaying vegetable matter, so may be useful. One or two species are more slim and of brighter colours, such as the fly called *Sargus cuprarius*, a rather abundant insect in the south of England, yet beautiful, the thorax being golden green, and the abdomen purple. The larva or grub is said to live underground, possibly feeding upon roots. Flower gardens that are situated near woods or pastures have an occasional visit from one of the breeze flies, so named from the sonorous noise produced by their wings. We know them also by the names of oxfies, gadflies, and clegs. To cattle they are a cause of painful annoyance, and sometimes they produce quite a panic in a herd, while horses greatly dread them. The females are the hostile individuals; nor do they spare mankind; one species, a speckled grey fly, common in July and August, dashes fiercely at our faces and hands when it has the chance. It is the male of these insects that is likely to appear in gardens as a hunter of flowers. Both sexes have singularly lustrous eyes, green or crimson, and on this colour are stripes or spots of various tints. There is no reason to apprehend an assault from the male gadflies, for in disposition they are pacific, the females only being bloodsuckers.

Half buried in flowers, and looking as if they had entered them for the sake of a nap, we find some small globular flies that we call the *Acroceras*, distinguishable especially by their small heads, which seem only big enough to hold the eyes. Their food is the honey they obtain, and they offer quite a contrast to their active and powerful relatives, the *Asili*, flies remarkable for long bodies, a narrow thorax, and which have what has been described a "hungry look." Their hunger they satisfy by preying upon other

insects not having jaws. They grip their victims firmly with their front pair of legs, and drive the beak or proboscis into the body. This beak has rows of tiny spines, which make it a fatal weapon, and an Asilus is brave enough to attack and conquer a bee. It is only now and then this occurs, however, but the Asili are on the whole useful as killers of some insect pests. Most of them are of dull colours; a showy species often seen near the coast has been called the hornet fly (*A. crabroniformis*), nor is it unlike that insect, though but two-winged. Its thorax is yellow with two black stripes, the abdomen is half black and half yellow. It has an odd way of flying if alarmed, rising and dropping as it goes along, and is stated to feed chiefly upon caterpillars. While in the larval stage the Asili live either in the earth or amongst decaying wood, but as larvæ, or grubs, they are not believed to be injurious. A familiar fly of summer and autumn, specimens of which may be sometimes noticed resorting to the flowers of October is the bee fly, or *Bombylius major*. Its habits remind us of the ways of some of the smaller hawk moths, since it suspends itself, apparently, with wings unmoved in the air, obtaining the nectar by its long trunk. If approached it darts off faster than the eye can follow it. It is furnished with antennæ longer than those of bees, and its head is smaller than that of a bee. The resemblance is in the black, furry body, the upper side of which has golden hairs, while underneath they are black-and-white. The Eupidæ, or snipe-flies, have been named from the small round head and conspicuous flexile tongue; they fly around flowers, and subsist upon a mixed diet, taking honey occasionally, and also seizing any insects they may fancy which happen to be visiting the same blossoms.

A group of small and active flies belong to the genus *Dolechops*, and often by their lively movements and bright, more or less metallic, tints, they seem to give an air of cheerfulness to the garden as well as to the country scene. They run about over the leaves in preference to flying, and it is probable that they prey upon aphides or the scale insects at an early stage. From their being frequently seen in gardens which contain ponds or are near streams some think the larvæ are aquatic. So is certainly that of the drone-fly, or *Eristalis tenax*, a fly that is a common visitor to the Michaelmas Daisy or the Chrysanthemum of October and later. "It is an insect," says one, "which may be observed by hundreds in the autumn sun, making the whole air musical with their merry hum, and the very sunlight brighter with their glancing wings." But some people are afraid of this fly, because it has a way of working the hinder part of the body in a curious manner, as if preparing to sting. No wonder that it is a good flyer, for the wings are broad, and though the body is stout there is a good array of muscle. Many who see this insect about their gardens have no idea where it was bred, nor how singular is its history in the maggot state, when it was fulfilling its office in nature, not merely to remove what is offensive, but to turn it into what is sweet and wholesome. Some who have watched the proceedings of this insect have given it the name of the "rat-tailed maggot," not an unsuitable appellation. Possibly it is less abundant about gardens than formerly, since its home is in neglected tubs or butts which contain inches of mud beneath the water. Such receptacles our modern gardeners, save in a few instances, would not tolerate, but they are the home of the rat-tailed maggot, afterwards to become the bright and bustling drone-fly. Like many aquatic creatures, air is necessary for its existence, and when immersed in mud this maggot would be unable to obtain this were it not furnished with a peculiar and telescopic tail. This is double, and is so contrived that the tubes can be lengthened out or drawn closely together whenever the maggot chooses; its length varies in different specimens. Having reached the full size this larva quits the water to become a pupa on dry ground.—ENTOMOLOGIST.

ZONAL PELARGONIUMS IN WINTER.

FEW plants are more thoroughly useful for supplying brilliantly coloured flowers during the dark days of winter, when bright bits of colour are so much appreciated, than the many grand varieties of Zonal Pelargoniums which are now universally cultivated. Given good plants to start with, the whole secret of success in their winter management lies in the proper regulation of heat, air, light, and water.

A light span-roofed house or pit, well heated and provided with the means of giving constant ventilation, should if possible be devoted to their culture, for the plants will not flower freely unless they are surrounded by a rather dry and warm atmosphere. Neither will the colour of the flowers be so vivid unless these conditions are maintained. We manage to keep up a constant supply of these showy flowers during the winter months. Our plants are arranged in two pits; they are kept as close to the glass as it is possible to have them, without allowing the flower trusses to touch it. The hot-water pipes heating these pits are never allowed to get cold, though, of course, during warm or bright

weather less artificial heat is used than when cold winds or frosts prevail. A free circulation of air is provided continually by tilting the lights. During ordinary weather these are raised at both front and back by means of boards. No alteration is made in ventilation for a few degrees of frost, but instead of reducing the air the heat in the hot-water pipes is increased. During sharp frosty nights the front air is taken off and about an inch of space is left open at the back. Our aim is to give the plants plenty of heat and an abundance of air. By these means we secure short-jointed shoots and abundance of brightly coloured flowers. I know of no other way by which these plants can be induced to flower thus freely in winter and at the same time have their growth kept sturdy.

There are many grand winter flowering varieties in commerce, and the list of good ones is being continually added to. Among the older kinds, those which I find most suitable for the purpose are—Singles: *Etna*, crimson scarlet; *John Gibbons*, rich scarlet, large truss; *Vesuvius*, bright scarlet, small trusses produced in great abundance; *Rosalie*, salmon pink; and *White Perfection*, truss compact, colour pure. Doubles: *F. V. Raspail* and *Wonderful*, both scarlets, and *Candidissima*, white. I find the singles are more generally admired than the doubles, and the difficulty about the petals falling may be easily overcome by dropping a little floral cement with the aid of a pointed stick into the centre of each flower.—D.

PLANTING BANKS AND SLOPES.

If you can allow space in your Journal I should like to recommend two ways in which banks may be planted with very good effect. Frequently such positions in gardens have to be dealt with, and it is generally necessary to so occupy them that the minimum of attention is required to keep them in order when planted.

My first suggestion is simple and suitable for most aspects—viz., to plant *Cotoneaster microphylla* thinly as a general covering, and fill in all available space with the tall growing *Narcissus*; by a judicious selection of varieties a good succession of bloom could be extended over at least two months in spring. *N. poeticus* especially should be planted in large numbers. The blooms will grow up through the *Cotoneaster*, and by it be protected from being broken down by strong winds and rain.

The second method is an adaptation of the rock garden principle, using the larger growing plants and shrubs, and arranging them as informally as possible with any large stones or tree stumps—that may be procurable—interspersed. I append a selection of suitable plants which may be established in a groundwork of *St. John's Wort* and *Variegated Periwinkle* :—

<i>Acanthus latifolius</i> .	<i>Phormium tenax</i> .
" <i>mollis</i> .	" <i>variegata</i> .
<i>Berberis Darwini</i> .	<i>Retinospora plumosa aurea</i> .
" <i>stenophylla</i> .	" <i>ericoides</i> .
<i>Cotoneaster microphylla</i> .	<i>Saxifraga cordifolia</i> .
" <i>rotundifolia</i> .	" <i>crassifolia</i> .
<i>Funkias</i> .	<i>Sedum spectabile</i> .
<i>Forsythia suspensa</i> .	<i>Veronica Traversi</i> .
<i>Iris germanica</i> .	<i>Yucca filamentosa</i> .

Many other plants and shrubs are also suitable, and will suggest themselves in a general way.—W. H. L.



FRUIT FORCING.

Vines.—*Earliest Forced.*—The Vines that were started early in November, whether in pots or planted in the borders inside, will now have the root action excited by the development of the foliage. Great care is required at this stage to avoid chills, such as those resulting from cold currents of air and watering with cold water or liquid manure. The temperature about the pots should be kept steady at 70° to 75°, pressing down the fermenting material, and adding fresh, but sweetened, as required, it being a good plan to keep a heap of leaves and stable manure in reserve, from which the supply may be drawn as needed. Disbud and tie down before the shoots touch the glass, not being in too great a hurry in stopping. When two leaves are made beyond the bunch the laterals of pot Vines should have their points pinched off at that point of the shoots, but those planted in the borders, and there being space, may be stopped three or four joints beyond the fruit, and then extend the growth so as to secure as much well-developed foliage all over the house as can have full exposure to light, taking care to avoid overcrowding. Superfluous bunches should be removed as soon as choice can be made of the best, leaving those for the crop that promise to be the best shaped and most compact; and it is better to have the Vines under rather than overcropped. The night temperature should be maintained at 60° to 65°, and 70° to 75° by day, with an advance of 5°, 10°, or 15° from sun heat. When the flowers open keep the temperature 70° to 75° regularly, and maintain a rather dry, but not arid, condition of the atmosphere; and when the fruit is well set return to the temperatures previously named. Vines in pots should, as soon as the

fruit is set, be copiously supplied with liquid manure, yet it must only be given when the soil is moderately dry. Maintain a moist genial atmosphere by damping the paths two or three times a day, and occasionally with liquid manure, not too strong, or the ammonia volatilised may prove injurious instead of beneficial to the foliage.

Houses to Afford Ripe Grapes in June.—These are the first in a majority of establishments, and are often planted with a medley of varieties, which cannot all have proper treatment. Black Hamburg, Mill Hill Hamburg, and Madresfield Court are good black varieties, and of white kinds White Frontignan, small, but esteemed for its rich flavour, forces well, Buckland Sweetwater, and Foster's Seedling also answer well. The Vines should be planted inside the house and be confined to the inside border until it is occupied with roots, when they may be allowed to pass into the outside border. This must be covered with 3 inches thickness of dry leaves with a little long stable litter over them to prevent their blowing about. If the roots are entirely in an outside border it should have some fermenting materials—two parts leaves and one part stable litter—mixed, placed thereon, turning and adding to them from time to time so as not to allow the materials to become cold or a close soapy mass. If that cannot be done, it is better to cover the border with about 6 inches thickness of leaves and enough stable litter on them to keep them from displacement by wind, and reduce this covering in late April or early May to an ordinary mulch—enough to cover the surface about an inch. The house should be started at the new year, watering the inside border thoroughly with tepid water, but not over 90°, and when the soil has been brought into a moist condition an application of tepid liquid manure may be given to weakly Vines or those in borders of limited area. This will enrich the soil and become assimilated and available as food by the time the Vines burst into leaf. Damp the house and Vines two or three times a day in bright weather, but when dull once, or at most twice, say in the morning and early in the afternoon, will be sufficient. Maintain a temperature of 50° to 55° at night and on dull days, advancing to 65° from sun heat and a free circulation of air.

Houses from which the Grapes have been Cut.—Pruning should be completed without delay, cut to a round bud as near the main stem as possible, shorten or cut away elongated spurs where there is others nearer the stem to supply fruit, or train up young canes to displace them. Remove loose bark carefully, not scraping into the quick or live bark, and thoroughly cleanse the house, washing the Vines with a solution of softsoap, 4 ozs. to a gallon of water, employing a brush, and reaching into every hole, angle, and crevice. Avoid strong soapy solutions, as they dry the bark and cause the Vines to break weakly—in fact, growth is not free until the substance is softened and removed by syringing the rods. Remove the loose surface soil, especially near the collar of the Vines, and supply fresh loam, with about one-third of earth-closet manure mixed with it, or decayed stable or preferably farmyard manure. If these are not forthcoming, add a 9-inch potful of bonemeal and double that quantity of wood ashes from hedge trimmings to every 3 bushels of loam, and if a 9-inch potful of blood, dried and ground, be added the mixture is one of the very best for top-dressing Vines. Loam seems to favour root formation, and it holds the other fertilising substances, so that the roots find abundance of nourishment when proper supplies of water are given during active growth. A couple of handfuls of the mixture, without the loam, sprinkled on each square yard of border and lightly pointed-in greatly aids the growth of the Vines. The house should be kept cool, but frost is best excluded. If used for plants the temperature ought not to exceed 40° to 45° by artificial means, and those plants only that require safety from frost should be placed in vineries when the Vines are at rest. If the house has a mean temperature of 50° the buds will be excited, and that is prejudicial to the after-growth.

Late Houses.—Muscat of Alexandria and Canon Hall Muscat are extremely difficult to keep on the Vines after Christmas, which may be due to the fluctuations of temperature and variability of the atmospheric moisture, the principal difficulties being to keep the temperature even and prevent the deposition of moisture on the berries. This usually occurs after a cold period, the heat of the sun expanding the atmospheric moisture, and it is deposited on the cooler surfaces of the Grapes, which do not become warmed equally with atmospheric air. Some growers prefer to let the Grapes remain on the Vines. To keep the temperature equable and exclude fogs and damp cover the roof of the house with straw or similar material, keeping the house freely ventilated in mild weather and close and cold, with little more heat than is necessary to exclude frost. Grapes so kept weigh heavier than those that hang some time in a drier and warmer atmosphere, and Muscats so preserved command long prices, but the Grapes do not always keep well. For general purposes, Grapes are best kept after the new year in a Grape room, cool, dry, and as equable in temperature as possible, and the more wood they are cut with the better they keep. Place a lump or two of charcoal in each bottle before the end of the shoot is inserted in the rain water, and there is then a certainty that it will keep sweet up to June. Any dry room is suitable for keeping Grapes in bottles of rain water, provided the temperature is kept equable, or as near as may be at 40° to 45°. By cutting and bottling the Grapes the Vines are set free for pruning and cleansing the house. Alicante and Gros Colman, also Lady Downe's, succeed well under the close-pruning system—that is, spurring to one or two buds, the bearing shoots being stout and short-jointed; but Gros Guillaume and Mrs. Pince do best on the long-pruning system—that is, prune the shoots to a plump bud on well-ripened wood, as the small basal buds are seldom

reliable, often pushing fruitless shoots. Muscat of Alexandria and Canon Hall Muscat also succeed best on the extension system, but sturdy, short-jointed, well-ripened, and not over-cropped shoots of these varieties generally show enough fruit when pruned to two buds, but when the buds are small and the growth weak or long-jointed, it is better to shorten the shoots to the first plump round bud from its base, always taking care to rely on those only on well-ripened wood. Where the Grapes cannot be cut for some time the mean temperature should be maintained at 45°, 5° less as a minimum, and 5° more as a maximum, admitting air constantly in mild weather, but keeping close when foggy and cold, but with a gentle warmth in the pipes to insure the air moving.

THE KITCHEN GARDEN.

Mushrooms.—The weather having, as a rule, kept very mild, there has been little or no necessity for resorting to fire heat in order to keep the beds in a productive state. In reality fire heat would, unless very sparingly applied, have done more harm than good, the heaviest crops of the most solid Mushrooms being produced in a temperature ranging from 50° to 55°, no harm whatever resulting by occasional drops to lower figures. Supposing some of the beds now require a little new life put into them, and those spawned late give no signs of moving, turn' on fire heat is advisable. The old, dry, and apparently exhausted beds should have a gentle yet thorough soaking of warm water in which salt has been dissolved at the rate of about 1 oz. to the gallon. Against this may well be tried a light surfacing of Thomson's manure, this being washed in by warm soft water, or it may be dissolved in the water prior to using it at the rate of 4 ozs. to a three-gallon can of water. Old mulching material should be cleared off the beds, and a thick covering of soft strawy litter substituted, this serving to keep the beds sufficiently moist without the necessity for frequently syringing over them. Let the late spawned beds start naturally. There ought to be plenty of moisture contained in them, and especially if fire heat has been withheld whenever the weather was mild. As many as three distinct crops can sometimes be had from beds not forced too hard, not overwatered, and not overrun by a destructive fungus which generates about old Mushroom stumps that cultivators have thoughtlessly left in the soil. Always scoop out the old stumps, and refill the holes thus formed with fresh fine loam. If there is room continue to form fresh beds, taking care to spawn these before the heat has declined much below 85°. Open Mushroom houses as soon as possible, especially when the doors are facing a cold quarter. If the same pains were taken in excluding cold air as there is, though with less urgency, in excluding light, far better crops of Mushrooms would usually be obtained. It is the equable temperature and genial warmth of a cellar that best suits them, and these conditions should be imitated as much as possible.

Open Air Beds.—Under good management there ought to have been extra good and almost continuous crops taken from these up to midwinter. If the beds have not done well they may yet produce heavy crops early in next spring, therefore do not neglect them. Heavy cold rains ought to have been carefully excluded, the two extremes, excessive dryness, consequent upon overheating, and saturation, being alike prejudicial. Take advantage of a mild day and remove all the cold wet mulching from the surface of the beds, and before covering with fresh litter take good note of the whereabouts of any clusters of Mushrooms there may be showing, in order that these may be gathered without greatly exposing other parts of the bed. Cover heavily with fresh strawy litter, a thickness of 18 inches not being too much, disposing and fastening it down in such a manner as to effectually exclude heavy rains as well as cold winds and frosts.

Salading.—The Mushroom house in addition to being very suitable for forwarding Seakale and Rhubarb is also a good place for blanching Endive and Chicory. If a few dozens of Endive are every week or ten days transplanted to a bed of moist soil or even ashes, packing them closely together, they will blanch very effectively in about a fortnight, there being less waste when so blanched than by other methods. The produce will not keep long after it is blanched. Strong roots of Chicory having any green tops twisted off, and then either placed in pots or boxes of moist good soil, or bedded in some of the latter, will quickly produce quite a profusion of strong well blanched leaves, a few of which add to the appearance and flavour of a mixed salad. A gentle heat is now required for Mustard and Cress. Sow every week in boxes and rather thickly on the surface of quite fresh rich soil. It will damp off badly unless the soil is completely changed every time. Keep uniformly moist and well darkened by either paper or mats till the stems are 1½ inch long, and then expose gradually to the light; also removing the boxes to rather less heat, commencing cutting directly the tops are green. Thus grown there will be a good length of blanched stems, this adding both to the appearance and quality of the salading. It has been possible to cut small hearts of Lettuces in the open up to the present time, but this late growth will be the means of greatly lessening the chances of the latest raised plants being of any service next spring. In any case it is advisable to raise an early batch of either Golden Queen or Early Paris Market, both very superior Cabbage varieties, which force admirably. Sow the seed thinly in boxes or pans, placing these in gentle heat and not far from the glass. Before the plants are far advanced in growth have a frame on a mild hotbed ready for their reception, a bed of soil not far from the glass in a two-light frame growing a remarkably fine lot of early Lettuce without very much pains being bestowed upon them. A frame should also be made ready for Radishes and Carrots when either are in early demand.

THE BEE-KEEPER.

APIARIAN NOTES.

COLOURED COMBS.

THANKS to "C., Northumberland," for the reply on page 558. There are different causes for coloured combs—viz., pollen, propolis, and sometimes the determination of bees to imitate the already darkened brood combs within their hive. This may be seen by the newly made comb pendant on the old comb, while that on white comb is also pure. Opinions differ why this is so, as well as how the change is wrought. Having in view those facts we discourage the practice of admitting bees to supers from the centre of the hive; and our supers, although tardily filled, are pure and delicate—a thing unknown to the greater number of bee-keepers in England until the first Crystal Palace Show in 1874.

TESTIMONY.

The "British Bee Journal" referred to our honey at that time as follows:—"The pride of the Show came from Ayrshire in octagon Stewarton supers of about 4 inches in depth, and truly it was a pleasure to look at them, a treat in itself to see how the art of the master could induce the bees to build their combs so beautifully straight, so symmetrical, and even on both sides, and so perfectly finished that one could have declared they were cast in a mould to pattern; and who could fail to admire the perfection in the art of packing by the Ayrshire gentlemen, who brought their immense harvest over 400 miles of railway almost without breaking a single comb; while scarcely one of the damaged supers had one-fourth of the journey to undergo." The "Times" reported that our exhibit "eclipsed everything." Now some of the supers referred to were produced from hives on the two-queen principle. After this restatement of a stern fact, who will give credence to the "idle" talk that the idea "is new," or who can deny the fact that the world is indebted to the *Journal of Horticulture* for primary information on the successful and practical management of bees? This is the truth, notwithstanding what may be advanced elsewhere to the contrary.

THE EFFECT OF FLOWERS ON SUPERS.

The common Ragweed, when bees work upon the flowers, give the supers a high yellow colour, as do other abundant yielding pollen plants. The only preventive is to exclude the bees from supers elsewhere than at the sides, which of course means relegating the zinc queen excluder to the lumber room.

THE STUDY OF BEES.

I am inclined to think that students of horticulture should turn their attention in a general way to the study of entomology, and to bees in particular. There is a wide, but still unexplored field for thought and action. The whole natural history of bees is fraught with interest. Their purpose is to fertilise flowers and prevent in-and-in breeding. Nature has endowed them with an extraordinary fecundity to effect her purposes at the proper time. They flower their sweets for bee preservation, and man shares the honey with them.

The bee lives, with the exception of water, entirely from the plant, and one is dependent upon the other, everything suitable for interharmonious action being provided in both in a manner that compels admiration.

From the tiny egg to the perfect insect, the evolution through a series of transformations is sixteen days; from eighteen to twenty in the worker, and from twenty-one to twenty-four in the drone, the young requiring attention from the bees during the whole of these periods. Now, contrast bees with the eggs, transformation, and ulterior motives of some of the saw flies and butterflies which take care of themselves from the moment they are hatched. If these things do not incite within the student a desire to study the

life history of the foes and friends of the garden he fails to look to his own interest and pleasure, at least this is the opinion of—
A LANARKSHIRE BEE-KEEPER.

TRADE CATALOGUES RECEIVED.

H. Cannell & Sons, Swanley, Kent.—*Chrysanthemums and "Perfect Golden Seeds."*

J. Cheal & Sons, Lowfield Nurseries, Crawley, Sussex.—*Flower and Vegetable Seeds, &c.*

H. Deverill, Royal Oxfordshire Seed Establishment, Banbury.—*Seeds for the Garden.*

Dobbie & Co., Rothesay, Scotland.—*Competitors' Guide.*

Hurst & Sons, 152, Houndsditch, London.—*Vegetable, Flower, and Farm Seeds.*

Kelway & Sons, Langport.—*Manual of Horticulture and Agriculture.*

J. Laing & Sons, Forest Hill, London, S.E.—*Flower and Vegetable Seeds, Begonias, &c.*

Chr. Lorenz, Erfurt.—*Flower Seeds.*



FIG. 78.—A LARGE BUNCH OF GRAPES.

Charles Sharpe & Co., Sleaford, Lincolnshire.—*Garden and Farm Seeds.*

Stuart & Mein, Kelso, Scotland.—*Amateur Gardening Guide.*

H. & F. Sharpe, Wisbech, Cambridgeshire.—*Garden and Agricultural Seeds.*



* All correspondence should be directed either to "THE EDITOR" or to "THE PUBLISHER." Letters addressed to Dr. Hogg or members of the staff often remain unopened unavoidably. We request that no one will write privately to any of our correspondents, as doing so subjects them to unjustifiable trouble and expense.

Correspondents should not mix up on the same sheet questions relating to Gardening and those on Bee subjects, and should never send more than two or three questions at once. All articles intended for insertion should be written on one side of the paper only. We cannot reply to questions through the post, and we do not undertake to return rejected communications.

Aquatics for a Small Fountain-basin in a Conservatory (F. E. W.).—*Aponogeton distachyon*, *Limncharis Plumieri*, and *Pontederia cordata* are the most likely to answer your requirements, the first

being one of the finest aquatics, the flowers white and deliciously scented.

The Largest Bunch of Grapes (Foreman).—We made no mistake in the dimensions of the Arkleton bunch that was referred to a few weeks ago. It was carefully measured by a representative of this *Journal*, and a photograph was taken as the bunch was hanging on the Vines. As you and many other new readers have not seen the illustration we reproduce it. The bunch measured 2 feet 3 inches across the shoulders, and was the same in length. The circumference, following the contour of the shoulders to the body of the bunch, was 8 feet. The weight of the bunch at Edinburgh was 25 lbs. 15 ozs.; one from Eskbank, smaller, but more solid, weighing 26 lbs. 4 ozs. When first cut, the late Mr. Dickson of Arkleton always said his huge bunch weighed 26 lbs. 8 ozs.

Plants for Rockery (F. D.).—It is difficult to name plants that rabbits will not eat, as much depends upon their number, the severity of the weather, and the scarcity of their natural food—i.e., grasses and other herbage. The following are not usually eaten by rabbits, and will grow in rather shady situations, but not under the drip of trees:—*Arabis albidia*, *Aubrietia græca*, *Azalea amœna*, *A. procumbens* (the two last are dwarf shrubs requiring heat), *Campanula garganica*, *Cistus* vars. but they are not very hardy; *Cotoneaster rupestris* (dwarf shrub); *Cyclamens Atkinsi*, *Coum*, *vernum*, *hederifolium*, and *neapolitanum* do well in shade at the foot of rockwork; *Cytisus decumbens*, *Daphne Fioniana*, *Erica carnea*, *Genista præcox*, *Geum montanum*, *Iberis corrafolia*, *Lithospermum prostratum*, *Phlox Nelsoni*, *P. verna*; *Primulas* in variety do well at the foot of rockwork in partial shade; *Rhododendron hirsutum*, *Rosa rugosa*, and var. *alba*, *Saxifraga Camposi*, *Sedum spectabile*, and *Sempervivum arachnoideum*. The *Vincas* and *Hypericum calycinum* form a dense covering in shade, and rabbits care nothing about them. *Helleborcs*, *Trollius*, and *Trillium*, do well in partial shade, and are fine at the foot of rockwork, where they have plenty of good soil and moisture.

Root-pruning Apple and Pear Trees (H. G.).—The Apple is a less deep-rooting tree than the Pear, but both strike roots almost straight down in loose soils, producing few fibres, and consequently the trees are unfruitful. Root-pruning is intended to bring too gross growing trees into a bearing state by checking exuberance of growth. It is less needed when Apples are worked on Paradise stocks or Pears on the Quince, but all, in most soils, require root-pruning during the earlier stages of their career. When the trees are over-luxuriant uncover the roots, see where the strongest and most straight-down are, and sever these within a foot to a yard of the stem of the tree, according to its size and strength, any long and bare horizontal roots being treated in a similar manner, taking especial care of the fibres and small roots. If the trees are very vigorous and the roots are large and few, it is a safe plan to operate on one side only one year and defer the other until the next, for root-pruning should never be carried to excess, but looked upon as a means for checking luxuriance and increasing the fruitfulness of the trees. Some judgment must be exercised, not forgetting that root-pruning lowers the growing powers of the tree, and that stunted growth is as undesirable as exuberance. Moderate root-pruning is safe, and far more effective than pruning the tops of trees. The cuts of the roots should be made on the under side, and as clean as possible. The best time to operate is as soon as the leaves commence falling, say from the middle of October to the end of November, Pears being sooner fit for root-pruning than Apple trees, but the work may be performed any time between the fall of the leaves and the commencement of the buds swelling, always choosing mild weather, with the soil in good working condition. Shortening the roots and thinning the branches of too strong growing trees undoubtedly incite to the formation of blossom buds.

Sulphate of Iron for Apple Trees (F. J.).—Sulphate of iron, according to M. De Breuil, aids the growth of fruit trees and increases the size and quality of their produce. M. Müntz also says, "With iron sulphate the increase is 30.2 per cent." Iron sulphate increases the chlorophyll in crops to which it has been applied 9.6 per cent., and this is the main agent essential to the colouring of fruits. Most of the soils of this country contain enough iron for the requirements of Apple trees, yet it is not always in the most suitable form for root absorption, and the trees may not obtain the requisite amount from the soil to promote a healthy growth. For those reasons we find Apple trees canker badly where the ground contains more than 4 per cent. of iron oxide, and such soil needs be ammoniated to render the iron useful. Clayey loams have the iron oxide in the most available form, and fruit trees thrive best on such soils and produce the best fruit, but these soils must have the pan broken up, so that air and rain can penetrate freely, and if some manure is mixed with the hard pan the iron becomes available, also retains ammonia and phosphoric acids in soils. The application of iron sulphate to soils containing 5 to 6 per cent. of iron oxide (Fe_2O_3) has no beneficial action, but such instances are rare, and Apples grown in iron soils, termed red, as those of Herefordshire, Gloucestershire, Somersetshire, and Devonshire, contain more saccharine matter, greater specific gravity, carry the most colour, and make the best cider. It has to be remembered, however, that the beneficial action of iron depends on the presence of other essential plant foods in adequate corresponding ratio; therefore, sulphate of iron as a manure can only prove useful in soils that are deficient of available iron, say less than 4 per cent., and when they also contain potash, phosphates, and lime, and then it (iron sulphate) possibly benefits by aiding the absorption of nitrogen and

phosphoric acid, the sulphur acting as food or energy for the protoplasm of vegetable cells and the iron for the chlorophyll. Iron sulphate must not be applied in large quantities, 1 cwt. per acre being a full dressing, and three-quarter cwt. is sufficient in most cases, or a quarter of an ounce per square yard. The sulphate of iron should be mixed with ten times its weight of soil and distributed by hand evenly during moist weather in early spring, always when the ground is wet.

Smilax Culture (F. E. W.).—You do not name the species, and the genus *Smilax* embraces stove, greenhouse, and hardy representatives. *S. aspera mauritana* is a beautiful evergreen climber of considerable size, half-hardy, but well suited for a conservatory. *S. ornata* has handsomely marked leaves, spotted freely with silvery grey on a deep green ground, the markings being confined to the spaces between the veins is of moderate growth, forming a handsome pot specimen trained to a trellis, and requires a greenhouse temperature, warm rather than cool. *S. Shuttleworthi*, with large cordate, acuminate, deep green leaves blotched with silvery grey, the young leaves purplish at back, is a free-growing stove climber. *S. variegata* (*salicifolia variegata*) has the leaves finely marbled with white between the ribs; is very ornamental, and requires a greenhouse temperature. Those are, perhaps, the best of *Smilaxes*, which thrive best in a sandy loam with good drainage, and abundant supplies of water when growing, with a genial atmosphere. Perhaps, however, you have in mind the popular plant *Myrsiphyllum asparagoides*, that is popularly called *Smilax*, the green sprays of which are employed in bouquets and floral decorations. The plants succeed in warm or comparatively cool houses, the growths twining up strings. One of our correspondents has recommended it for covering the back walls of vineries. He says:—"I planted it along the back wall of a vinery last season, and trained it up by simply tying small strings to the bottom and top wires. The shoots soon took to these, and no more attention was required in the way of training. It is astonishing how closely the shoots keep twining themselves round the string, though resting against the intermediate wires. In no case did a shoot get behind a wire or twist itself round one, so that I cut any number of shoots up to 11 feet in length beautifully covered from top to bottom with its glossy foliage. The strings can be easily drawn out when the shoot is cut. These long sprays are very valuable for table decoration, as they can be twisted about in any form desired. I am just now preparing sufficient plants for five or six other houses in the same way. The plant is easily raised from seed. After it is established it keeps throwing up young shoots year after year. I cut twenty dozens of those sprays during the Christmas week. Anyone who has much house and table decoration to do can easily understand what the value of those would be at such a time."

COVENT GARDEN MARKET.—DECEMBER 28TH.

Trade slow, good supplies with no alteration in prices.

FRUIT.

	s.	d.	s.	d.		s.	d.	s.	d.
Apples, half sieve	1	0	3	6	Lemons, case	15	0	35	0
„ Nova Scotia, per ..	12	0	17	0	Oranges, per 100	4	0	9	0
„ barrel	0	0	100	0	Peaches, per dozen	0	0	0	0
Cobbs, Kent, per 100 lbs.	0	0	100	0	St. Michael Pines, each ..	3	0	6	0
Grapes, per lb.	0	6	2	0					

VEGETABLES.

	s.	d.	s.	d.		s.	d.	s.	d.
Beans, Kidney, per lb. ..	0	6	0	0	Mustard and Cress, punnet	0	2	0	0
Beet, Red, dozen	1	0	0	0	Onions, bunch	0	3	0	5
Carrots, bunch	0	4	0	0	Parsley, dozen bunches ..	2	0	3	0
Cauliflowers, dozen	2	0	3	0	Parsnips, dozen	1	0	0	0
Celery, bundle	1	0	1	3	Potatoes, per cwt.	2	0	5	0
Coleworts, dozen bunches	2	0	4	0	Salsify, bundle	1	0	1	6
Cucumbers, dozen	1	6	3	6	Scorzonera, bundle	1	6	0	0
Endive, dozen	1	3	1	6	Seakale, per basket	3	0	0	0
Herbs, bunch	0	3	0	0	Shallots, per lb.	0	3	0	0
Leeks, bunch	0	2	0	0	Spinach, bushel	3	0	3	6
Lettuce, dozen	0	9	1	0	Tomatoes, per lb.	0	2	0	6
Mushrooms, punnet	0	9	1	0	Turnips, bunch	0	3	0	4

AVERAGE WHOLESALE PRICES.—OUT FLOWERS.

Orchid Blooms in variety.

	s.	d.	s.	d.		s.	d.	s.	d.
Arum Lilies, 12 blooms ..	4	0	9	0	Mimosa, French, per bunch	1	0	to	1
Azalea, dozen sprays	1	0	1	6	Orchids, per dozen blooms	3	0	12	0
Bouvardias, bunch	0	6	1	0	Pelargoniums, 12 bunches	8	0	12	0
Camelias, doz. blooms ..	1	6	4	0	Pelargoniums, scarlet, doz.				
Carnations, 12 blooms ..	1	3	0	0	bunches	6	0	9	0
Chrysanthemums, dozen	1	6	4	0	Poinsettia, per bloom ..	0	4	0	9
bunches	6	0	12	0	Primula (double) 12 sprays	0	6	0	9
Eucharis, dozen	4	0	6	0	Pyrethrum doz. bunches ..	3	0	6	0
Gardenias, per dozen ..	6	0	9	0	Roses (French), per doz. ..	1	6	3	0
Hyacinth Roman, 12 sprays	0	9	1	0	boxes, 100.	5	0	8	0
Lilac, white, French, per	4	6	6	0	(indoor), dozen	2	0	4	0
bunch	4	6	6	0	Red, per doz. blooms ..	1	0	2	0
Lilium longiflorum 12					Tea, white, dozen ..	1	6	3	0
blooms	9	0	12	0	Yellow, dozen	4	0	6	0
Lilium (var.) doz. blooms	3	0	5	0	Tuberose, 12 blooms ..	0	6	1	0
Lily of the Valley, dozen	2	0	4	0	Tulips, dozen blooms ..	1	0	3	0
sprays	4	0	8	0	Violets, Parme, French, per	4	6	6	0
Maidenhair Fern, doz. behs.	3	0	6	0	bunch				
Marguerites, 12 bunches ..	3	0	6	0	Violets, Czar, French, per	2	6	3	6
Mignonette, 12 bunches ..	3	0	6	0	bunch				
					Violets, Victoria, French,	2	0	3	0
					dozen bunches				

PLANTS IN POTS.

	s.	d.	s.	d.		s.	d.	s.	d.
Arbor Vitæ (golden) dozen	6	0	12	0	Ferns (small) per hundred	6	0	8	6
Azalea, per dozen	42	0	60	0	Ficus elastica, each	1	6	10	0
Begonia, per dozen	6	0	12	0	Foliage plants, var., each	2	0	10	0
Chrysanthemums, per doz.	6	0	9	0	Hyacinths, dozen pots	8	0	12	0
" large plants, each	1	0	3	0	Lycopodiums, per dozen	3	0	4	0
Cupressus, large plants, each	2	0	5	0	Marguerite Daisy, dozen	6	0	12	0
Cyclamen, dozen pots	9	0	18	0	Myrtles, dozen	6	0	9	0
Dracæna terminalis, dozen	18	0	42	0	Palms, in var., each	1	0	15	0
" viridis, dozen	9	0	24	0	" (specimens)	21	0	63	0
Euonymus, var., dozen	6	0	18	0	Primula, single, doz. pots	4	0	6	0
Evergreens, in var., dozen	6	0	24	0	Solanums per dozen	9	0	12	0
Ferns, in variety, dozen	4	0	18	0	Tulips, dozen pots	6	0	9	6



CHRISTMAS CATTLE MARKETS.

"REALLY prime quality cattle are very short in supply, and with an over-supply of second sorts the trade was dull." This quotation from one of several recent market reports is characteristic of all, and is really a key to the unsatisfactory condition of the markets for home-bred cattle. The bulk of so-called fat beasts are of inferior quality, and for such stock prices rule low, but for really superior beasts prices are, and have been, fairly remunerative. About 6½d. per lb. may be taken as the average wholesale rate for live beasts, and 5½d. per lb. for the best American refrigerated beef by the quarter. There can be no question that very much of this imported frozen meat is sold by butchers as the best Scotch, and sirloins at 10d. per lb. must afford a very handsome profit to the man who can sell enough of them. Heifers of about 180 lbs. have been sold in the Midlands at 6½d. per lb. by weight. Such beef is of the best quality, and was decidedly cheap, but there would probably be two or three profits out of it subsequently before it came into the consumer's hands.

It was with some curiosity that the great London Christmas market at Islington was looked forward to. This, called the "Islington Great Day," was held on December 12th, and was, on the whole, satisfactory. The number of beasts offered—5520—was well up to the average of the last four years, the prices ranging from 2s. 4d. to 5s. 4d. per stone of 8 lbs., being very much the same as in 1891 and 1890. No foreign cattle was on the market, so it was a fair test of the value of home-fed beasts, and though on the whole satisfactory, it must be owned that the number of animals reaching the higher figure was small, but the price was well maintained, the trade in the best class of stock being steady if slow. As usual at this market, Scotch beasts took the highest price of 5s. 4d. Next came Norfolks, Devons, and Shorthorns at 5s. 2d., Herefords and Welsh Runts at 5s., and Irish at 4s. 8d. per stone of 8 lbs. It is clear, therefore, that there is no radical change in the value of really high-class beasts, and that low prices generally are owing to so many inferior animals being regularly sent to market week by week. Alarmists as well as producers point to this as an outcome of hard times, but they take care to make no mention of the steadily sustained value of really good stock.

While the great Christmas market shows this reasoning to be correct, Central Meat Market reports tell of an overstocked supply of 5200 refrigerated quarters of American beef to hand in a single day; also of a steadily increasing supply of beef from this source, so that anything like an important reaction in the price of inferior cattle is highly improbable. Good and not evil will certainly come of this, if it forces graziers to reduce their head of stock, and to adopt an improved system of feeding. Store cattle out on pasture now in all changes of weather, hoar frost and snow often covering the pasture, may and do survive such exposure, but they become very low in condition by spring.

The small ration of hay which they have just serves to keep them alive, and it does very little more. Now, take such cattle next May Day, and see if any reasonable man can expect them to become prime fat beasts in the course of the next six months. To those farmers who have the whole of their cattle comfortably established in yards in snug quarters, well fed, and well cared for in every way, our statements about such suicidal exposure and negligence of animals may appear overdrawn. We assure them they are not. Several times recently have we driven considerable distances to catch early trains in Derbyshire and Leicestershire; and we invariably see both horse and cattle stuck out; often in meadows in bleak situations, always in a state of semi-starvation.

The highest quotation for sheep at Islington was 5s. 6d. per stone of 8 lbs., or 6d. per stone less than last Christmas, owing partly to the fact that the supply—15,290 head—was the largest on record, being 720 more than last year. It was the small choice South Downs of about 60 lbs. that made the top price, other breeds falling in value very much according to weight, as for example, Hampshires of 11 stone being quoted at 4s. 10s. to 5s., and Lincolns of 12 stone at 4s. 6d. to 4s. 8d. The higher quotation of 5s. 6d. is really the lowest price at this particular market for the last five years. In 1887 the number was 13,330, and the highest price 5s. 4d.; in 1885 there were 13,650, and the price was 5s. 8d.; and in 1884 there were only 9940, and the price fell to 5s., the lowest price during the last thirteen years. On the whole, therefore, there is no reason for alarm, on the contrary rather for satisfaction, regard being had to the enormous annual increase in the number of frozen carcasses of mutton imported from New Zealand and other countries.

WORK ON THE HOME FARM.

"Just for fancy" many a farmer has a fat beast or two for the Christmas stock sale of his particular locality. It is a pardonable piece of extravagance even in these hard times, and it is quite inspiring to visit a farm where only really well-bred, well-fed animals are kept, to discuss the merits of prizewinners, as well as details of management. Only we do not advise having a large head of fat beasts tied up after Christmas; a moderate number there may be if they are fed solely upon home-grown corn, but there must be no bills for oil cake, the farm must be self-supporting. The strictest attention must be paid to every detail of cost, for it is ridiculous to go on year after year feeding beasts at a loss, as is now so frequently done.

Fine open weather, enabled the ploughs to be kept going and Wheat sowing to be done right up to Christmas on light and mixed soils, then the work ceased. Sheep folds on excellent crops of Cabbage have been possible on such land. The hard frost will do much good in shattering heavy land and rendering it fit for tillage. To those in arrears with ploughing we say, Try another autumn to get the work done sooner. Then with surface and underdrains in order every shower that falls does good to the land, air enters freely too, frost lays hold of it, and all natural influences tend to improve and prepare it for cropping in spring.

METEOROLOGICAL OBSERVATIONS.

CAMDEN SQUARE, LONDON.

Lat. 51° 32' 40" N.; Long. 0° 8' 0" W.; Altitude, 111 feet.

DATE.		9 A.M.					IN THE DAY.				Rain.
1892. December.		Barometer at 32° and Sea Level.	Hygrometer.		Direc- tion of Wind.	Temp. of soil at 1 foot.	Shade Tem- perature.		Radiation Temperature		
			Dry.	Wet.			Max.	Min.	In Snn.	On Grass.	
		Inchs.	deg.	deg.		deg.	deg.	deg.	deg.	Inchs.	
Sunday ..	18	30.278	47.1	44.8	W.	43.0	49.1	46.3	52.9	44.0	—
Monday ..	19	30.225	43.9	41.7	W.	43.0	44.8	43.4	46.7	42.1	—
Tuesday ..	20	30.114	42.4	40.6	W.	42.6	44.2	40.9	45.2	39.7	—
Wednesday	21	30.138	40.1	39.9	W.	42.1	45.0	38.3	47.1	35.1	—
Thursday ..	22	30.083	35.3	35.3	calm	41.1	41.2	33.2	41.9	26.3	—
Friday ..	23	30.112	37.4	34.2	E.	39.9	38.9	33.9	42.8	27.6	—
Saturday ..	24	30.036	28.8	28.5	N.W.	39.2	32.6	27.3	45.2	22.0	—
		30.141	39.3	37.9		41.6	42.3	37.6	46.0	33.8	—

REMARKS.

18th.—Fine, with occasional gleams of sun about midday.
19th.—Overcast all day.
20th.—Overcast throughout.
21st.—Slightly foggy in the morning; fair afternoon.
22nd.—Fog all the morning; a little misty in the afternoon; bright night.
23rd.—Fine, with occasional gleams of sunshine in the afternoon.
24th.—Bright and sunny throughout.
A rainless week, with steadily decreasing temperature and small daily range.—G. J. SYMONS.

